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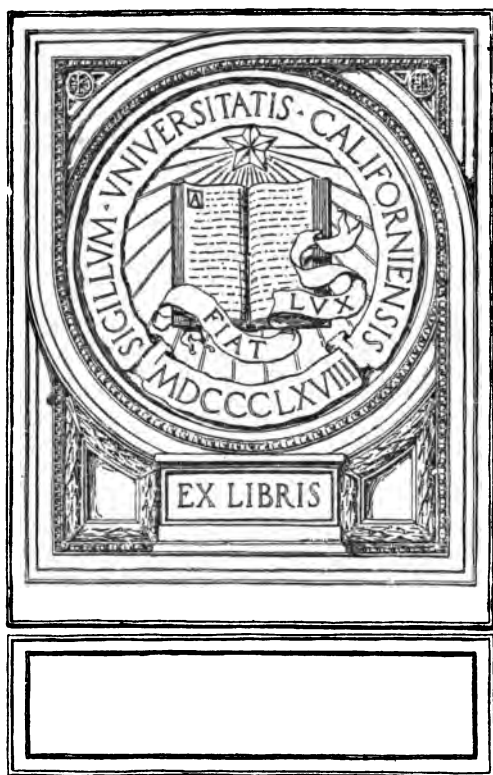
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HANDBOOKS OF
PRACTICAL GARDENING

THE BOOK OF
THE
SWEET PEA

BY

D. B. CRANE F.R.H.S.



HANDBOOKS OF PRACTICAL GARDENING
EDITED BY HARRY ROBERTS

THE BOOK OF THE SWEET PEA

UNIV. OF
CALIFORNIA



"JEANNIE GORDON," AN EXCELLENT BICOLOUR FOR DECORATION

THE BOOK OF THE SWEET PEA

BY

D. B. CRANE, F.R.H.S.

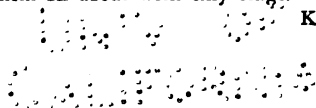
AUTHOR OF

"CHRYSANTHEMUMS FOR GARDEN AND GREENHOUSE"

"FANSIES AND VIOLETS"

"Here are sweet peas, on tip-toe or a flight,
With wings of gentle flush o'er delicate white.
And taper fingers catching at all things,
To bind them all about with tiny rings."

KEATS.



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PREFACE

No subject in the whole of the floral world has achieved greater notoriety in recent years than the Sweet Pea—the peer of hardy annuals. Close and persistent attention has been given to the improvement of this flower, by raisers and others, for some years past, and the result of this ungrudging devotion of its enthusiastic admirers is to be seen to-day in numerous beautiful plants, bearing a wonderful display of most charming blossoms.

The Sweet Pea has now such numerous devotees, many of whom have but a faint notion of the possibilities of the flower, that this would appear to be a sufficient justification for the publication of this treatise.

Cultural directions from a comprehensive point of view receive very full consideration, and the claims of the Sweet Pea for varied purposes are dealt with in detail.

For valuable historical research my thanks are especially due to Mr S. B. Dicks, who has afforded me every facility in this respect.

That this little work may prove helpful to lovers of this fragrant annual is the sincere wish of the Author.

The Editor wishes to express his indebtedness to Messrs Dobbie of Rothesay, the distinguished florists, for the loan of some beautiful photographs.

D. B. C.

1909.

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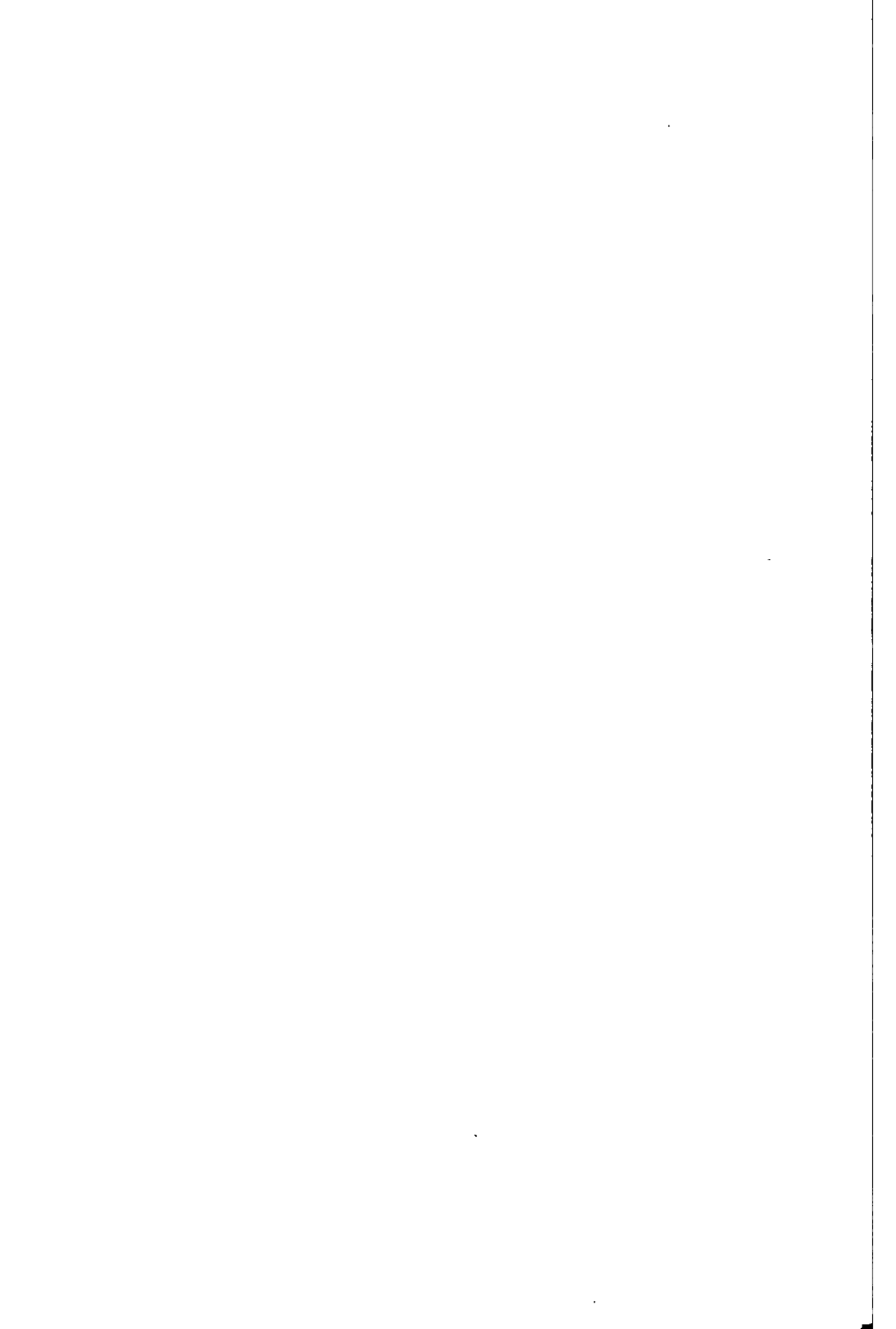
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THE BOOK OF THE SWEET PEA



THE BOOK OF THE SWEET PEA

X CHAPTER I

INTRODUCTION

THE extraordinary progress made in the development of the Sweet Pea in more recent years and the improved methods of cultivation now practised by the more skilful growers, many of whom are successful exhibitors, have induced a large number of admirers of the flower to devote themselves with the greatest enthusiasm to the promotion of its well-being.

We doubt whether there is any other summer-flowering subject that is held in higher esteem by lovers of flowers in all walks of life than the Sweet Pea, which has been improved beyond our most sanguine expectations. This subject has gained enviable notoriety and distinction, and has been brought from comparative obscurity into the greatest prominence within a few years. Many names that are now household words throughout the universe, would probably never have been heard of out of their own immediate locality, but for their association with the fortunes of the Sweet Pea.

The common garden name given to the Sweet Pea is a deservedly popular one, and is far more interesting than that of *Lathyrus odoratus*, the name given to this fragrant annual by the botanist. This beautiful flower has taken a firm hold on the affections of an immense number of enthusiastic cultivators and successful ex-

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hibitors, as is evidenced in every town and village in the United Kingdom. The enthusiasm of its devotees knows no bounds, in consequence of which the flower has come to be extensively cultivated and universally admired.

Interest in the Sweet Pea is not confined exclusively to one section of the community. Although the gardens of the rich are enhanced in beauty by its inclusion therein, and enriched by the wealth of its display of charming blossoms, there are others whose love of the Sweet Pea is of the warmest description and whose devotion to its culture is second to none. Numberless workers in our towns and cities, many of whom toil from early morning until quite late in the evening, find their chief recreation in the cultivation of this beautiful flower. Their garden, or that patch of it devoted to the Sweet Peas, is a centre of unfailing interest to them, and the blossoms gathered each day, are not infrequently set up in friendly rivalry with those of others similarly circumstanced. The humble toiler of the fields too, in later years, has made his life less dreary and monotonous by tending the Sweet Peas in his cottage garden on his return home when the labours of the day have ceased, and how sweet and helpful have been their influence in the surroundings of his home! This is no fancy dream of a distorted mind, but an actual everyday experience in the life of many who participate in the joys of the flower lover.

All those who worship at the shrine of the Sweet Pea never cease to extol its merits, and almost without exception they acknowledge it to be unrivalled as an annual. The extraordinary development that has taken place in more recent years has made its future progress a matter of absorbing interest. What the future has in store for us it is impossible to foretell, but there is little doubt we are on the eve of further developments,

which may possibly have widespread effects, and will probably add to the enthusiasm of its already zealous adherents. Looking backward, men of middle age will recall what was the invariable practice in the days of their youth. In most gardens at that time, named varieties, of distinct colours, were almost unknown, mixed seed being alone available for the ordinary admirer of this useful hardy flower. Even at that period Sweet Pea seeds were cheap, so cheap in fact that they were invariably sown thickly, and the plants, of course, suffered in consequence. Hazel stakes three to four feet in length were then considered ample, and so they were, because the culture of this subject was so little understood.

With the advent of the named varieties of the late Mr Henry Eckford's raising, a change for the better set in. The original work accomplished by this veteran florist will never be forgotten, as it is mainly through his efforts that we are in possession of the many beautiful Sweet Peas of to-day. In the thirty to forty years during which Mr Eckford's painstaking endeavours were in progress, constant change was being brought into effect. The public, or at least those who could appreciate what was being done, were delighted to acquire the new sorts as opportunity offered, and when the time arrived for an annual distribution of his novelties, there were always eager purchasers ready to acquire them.

Improvement, in both form and colour, was exemplified in the new varieties from time to time, and it must be admitted that the novelties distributed in the few years immediately preceding his much-lamented decease, were varieties of the highest quality, which still find favour with growers of to-day. It is a remarkable fact that market growers show a decided preference for what we may term the Eckfordian type of the Sweet Pea.

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Those who are familiar with the development of this flower, will remember that for years, seedsmen and others publishing lists of Sweet Peas were evidently glad to append the words "Eckford's strain," as this was a sure indication of their excellence and their pleasing variations of colour.

To such a degree has the development of this subject been extended that it is now possible to purchase some fifty seeds of fifty to sixty standard varieties for the sum of six shillings and sixpence. A dozen kinds may also be had for two shillings or less.

Immense areas are now devoted to the cultivation of Sweet Peas by market growers, and in determining their commercial value, good and distinct colours are regarded as essential factors. Tinted, striped, fancy, edged and bi-colour flowers have not the same value in the eyes of market men, as have those sorts of good and distinct self-colours. Variations and inconsistency in the flowers are serious objections, and for this reason certain well-known kinds that are popular with amateur growers are tabooed by market men for commercial purposes.

With the introduction of what is generally known among growers as the Spencer or waved type of Sweet Pea, additional interest has been manifested in the flower. We are indebted to Mr Silas Cole, Earl Spencer's able gardener at Althorp Park, Northampton, for this new and pleasing break in these beautiful flowers. The frilled or waved segments as represented in this new type of the Sweet Pea, have given us a beautiful series of most charming flowers. The original of this type was named Countess Spencer, and since the date of its introduction, the same raiser has enriched our collections with many other equally beautiful and handsome varieties of various colours. So important has been the change that special provision is now made for exhibiting sprays of the "Spencer" or waved blooms at the National Sweet

Pea Society's Show, and these classes are probably the most popular in the whole of the show.

The Sweet Pea Bi-Centenary Celebration at the Crystal Palace in 1900 was a great event, and was a red-letter period in the history of this flower; in fact it was epoch marking. The exhibition on that occasion was a most remarkable one, being a revelation to most visitors, many of whom had no idea that so much interest was taken in the Sweet Pea at that period. We doubt whether there has ever been at any time a more powerful display of flowers of one subject in that vast palace of glass. This exhibition, together with the conference that took place on that occasion, was the beginning of better things, and was carried out on a large and comprehensive scale.

As a result of this noteworthy event the National Sweet Pea Society was born, and has since held exhibitions both in London and in the provinces. It is impossible adequately to measure the good work and great influence of this special society.

Those who have never visited one of the shows of the National Sweet Pea Society have missed one of the greatest floral treats of the year. The pretty way in which the exhibits are disposed in the beautiful hall of the Royal Horticultural Society, in Vincent Square, Westminster, London, is worthy of emulation by other Societies. This place is transformed into a veritable fairy land. More than ordinary care is exhibited in the manner in which the whole show is planned. It is a fine conception. Superb quality characterises most of the exhibits, and the fortunate winners of prizes invariably set up Sweet Peas of the highest quality.

The decorative uses of the Sweet Pea are also charmingly exemplified in numerous dinner table-decorations, than which we have seldom if ever seen better. Hand-baskets, Bowls, Epergnes, and at times other devices, are exhibited in competitions where the adapta-

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bility of this flower for decorative uses is beautifully demonstrated.

New varieties are set up by the Sweet Pea specialists in groups, pleasingly disposed round the walls of the hall, in this way forming a dainty framework to the numerous and varied exhibits embraced therein. The future of the Sweet Pea is safe in the care of this Society. The Floral Committee is a most important body of well-qualified experts, who appear to give considerable attention to the new varieties as they are placed before them. In this way the public is protected and helped. Awards of merit are not made unless the novelty submitted fully justifies such recognition, and a first-class certificate, which is a higher award, is usually credited to varieties—and these are few—of the highest quality. The silver medal for the best novelty of the year is an honour that is naturally much coveted by raisers of new kinds; it may, therefore, be taken for granted, that the novelty on which the highest honour of the Society can be conferred must possess sterling qualities.

Not the least interesting work of the Society is the series of trials of Sweet Peas carried out so ably by Mr Charles Foster, in the gardens of Reading University College. These are extensive and perfectly independent trials, and the results attained must tend to promote the well-being of this subject. The Floral Committee of the National Sweet Pea Society in the past, have attended the meetings, etc., and given their services ungrudgingly, doing so in the interests of Sweet Pea growers, who benefit in no mean degree by the labours of the former, and who should be quick to appreciate their services by supporting the Society with an annual subscription.

A matter of considerable importance to growers is the compilation of a list of "too-much-alike" varieties. This is a very timely service, and is repeated annually.

It is a remarkable fact that so many varieties are so nearly alike; in one case there are no less than nine varieties bracketed together. This shows the utter futility of growing just those varieties that take our fancy. We may by so doing be growing a number of sorts quite unnecessarily. The classification of varieties that represent the best in their respective colours is a great boon. Any one who wishes to grow only the very best, may, by consulting this list, gain all the information in this particular, and be quite up-to-date.

Very praiseworthy is the determination of the Committee to exclude certain specified varieties from future trials. Old and inferior varieties are eliminated, notwithstanding that the list may include varieties that were once held dear. It is useless to grow old and inferior kinds when so many better varieties are available. We should always remember that it is just as much trouble to grow an old and worthless kind as it is to cultivate the very best novelty.

With the knowledge of certain facts regarding the weaknesses and variability of certain varieties that have a tendency to become sportive, and fortified with the possession of information how best to meet such circumstances, we can look forward to the future with no uncertain confidence.

There are other elements, however, that are matters for grave concern. The streak disease at the moment, seems to threaten to destroy or devastate whole stocks in the gardens of many of the most enthusiastic growers, unless some ready means are available of ascertaining the cause of the trouble, and unless a remedy can be applied to effect its eradication. We have sufficient faith in the ability of our scientists and others, who, together with the best of our practical growers, will no doubt in time lay bare the source of this disease. A duty is imposed on all lovers of the Sweet Pea to make strenuous efforts

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to wipe out this dread disease, and persistent research will, we feel sure in the end, reward the efforts of those who will apply themselves to unravel the mystery. No doubt in time the ills to which the Sweet Pea is heir will be overcome, and we shall then follow the cult of the flower with added zest and interest.

CHAPTER II

THE HISTORY AND EVOLUTION OF THE SWEET PEA.

THE early history of Sweet Peas is a subject of considerable interest to growers as well as to botanists, and inquiries are frequently made for particulars regarding their evolution. It hardly seems credible that the beautiful Sweet Peas, as we know them to-day, have such an interesting history, embracing a period of more than 200 years. Sweet Pea growers will ever be indebted to Mr S. B. Dicks, F.R.H.S., who has worked at this subject for about fifteen years, for the wealth of information he has amassed from so many different sources. His first paper was printed fully three years before the Bi-Centenary Celebration at the Crystal Palace in 1900, and although he contributed to the conference proceedings on that occasion, the Report of that function hardly did justice to his very excellent paper.

Since the above-mentioned period Mr Dicks has contributed valuable information to *The Sweet Pea Annual* in 1905 and again in 1908. For much of what follows under this heading we are indebted to this gentleman for historical notes that he has been pleased to place at our disposal, for which we owe him grateful thanks.

In the "Historiæ Plantarum" of Joannes Bauhinus, Ebroduni, 1650-51, Mr Dicks says he has discovered (on the authority of James Justice) the earliest mention of the plant which is catalogued as *Lathyrus angustifolius*,

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flore albo and rubro variegato, odorato. In 1669 a plant somewhat resembling the Sweet Pea is mentioned in the "Hortus Blesensis" of Robert Morrison, London, as *Lathyrus lalifolius annuus, siliquâ hirsuta*. Conjecture gives place to certainty by a reference to the "Historia Plantarum" of John Ray, London, 1686-1704, in which is found in Book XVII., "*Lathyrus major e Siciliæ*; a very sweet-scented Sicilian flower with red standard; the lip-like petals surrounding the keel are pale blue. Its seed pod is hairy." In the same work it is subsequently mentioned as *Lathyrus distoplatyphyllos hirsutis, mollis, magno et peramæno flore odoratissimo purpureo*, the latter word being added to Cupani's descriptive name on the authority of Dominico Sheard.

A devout Italian monk whose full name was Father Franciscus Cupani, who appears to have been a most enthusiastic botanist, was responsible for a most important work entitled "Hortus Catholicus," Neapoli, 1696. In another small work by the same devout author in 1695, *Lathyrus distoplatyphyllos*, etc., is among the plants newly discovered in Sicily by Cupani, afterwards transferred to "Hortus Catholicus," published in 1696.

Cupani's interest in the newly discovered Sweet Pea was so keen that in 1699 some seed was sent to Dr Uvedale at Enfield in Middlesex, where the resulting plants were subjects of considerable interest to many eminent botanists.

Caspar Commelin of Amsterdam was also the recipient of seed from the same source, in consequence of which an illustration of the plant was published in the "*Horti-Medici, Amstelodamensis*," in 1697-1701. Commelin was evidently enamoured of the plant, for in vol. ii., tableau 80, of the work under notice, a well-executed full-page drawing is given. The name appended is *Lathyrus distoplatyphylus, hirsutis, mollis et odoratus*. An appreciative article describes the plant in full detail,

and grateful acknowledgment is paid to the Reverend Father for the seeds received.

Rivini, whose "Introductio Generalis" (Lipsiæ, 1690-99) is mentioned by Ruppil as the authority for the name, figures *Lathyrus siliquis hirsutis*, A. Annual, which no doubt is intended for a plant of the Sweet Pea.

Mr Dicks has been able to photograph what is probably the oldest specimen of the Sweet Pea in existence, dating in all probability from about the year 1700. This privilege was allowed by the courtesy of Dr A. B. Rendle, M.A., of the British Museum Department of Botany. The photograph was taken of a dried specimen of buds, flowers and leaves preserved in Leonard Plukenet's Herbarium, which forms part of the Hans Sloane Collection in the Natural History Museum, South Kensington.

The specimens of this Sweet Pea, illustrated herein, some have imagined, were sent to Plukenet by Cupani, but there is some doubt about this owing to the excellent state of preservation in which they are found to-day. It will be remembered that Cupani sent some seed to Dr Uvedale, at Enfield, and as there is little doubt Plukenet was known to the latter; the plant of which the illustration is a portion, is probably the result of seed supplied by Dr Uvedale. An inspection of the illustration will show how accurately the descriptive name, originally given, describes the plant — *Lathyrus distoplatyphyllos pedunculis bifloris*, etc., etc. Linnæus, in the early eighteenth century, in his "Systema Plantarum Europæ," describes the plant. Under *Lathyrus pedunculis*, section *bifloris*, we find *Lathyrus odoratus*:

"a. *Lathyrus Siculus*, Rupp. Ien. 210, *Lathyrus distoplatyphyllos*, Comm. hort., 2, p. 219.

"b. *Lathyrus Zeylanicus*, odorato flore amœno ex albo et rubro vario, Burm., Zeyl. 138 Knip. Cent. IV. N. 37.

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"Habitat : (a) In Sicilia (b) in Zeylona [Ceylon]."

We learn from the authority cited by Linnæus what is of great importance, that the white variety is of Sicilian origin.

Respecting *Lathyrus Zeylanicus*; this is a native plant of Ceylon, as mentioned by Burmann, a professor of botany at Amsterdam, in "*Thesaurus Zeylanicus*." He says, "That plant differs from the *Lathyrus odorato* of Cupani only in the variety of the flower, and since it has been well described in (*Hort. Amst.*) part 2, we do not further describe it here, since also, in addition these plants are well known to all since they frequently occur in our gardens."

Burmann also says regarding *Lathyrus Zeyl. hirsutis flore variegato odorato* *Herb. Hart*, "Hartog or Hertog is a herbarium which I keep and which it is certain contains very many most elegant Zeylanian plants, and was sent once by him from Zeylana to Cornelius Vossus, the gardener at Amsterdam."

A variety bearing the name *Lathyrus Zeylanicus, rubro pulcher*, also appears in the same work. The word *odorato* may have been accidentally omitted, if so, we have here the red variety also ascribed by Burmann to Ceylon, on the authority of the "*Prodrum*" of Breynius, published at Gedani, 1680. If this surmise be correct these two varieties were known at the same time as Cupani was calling attention to those of Sicilian origin.

Evidence of the origin of the Sweet Pea may appear in some instances to be somewhat conflicting, and it is not possible in the space at our command to go as fully into the history as we would like to do. We will therefore proceed with the more horticultural aspect of the subject.

The first coloured illustration of the Sweet Pea appears to have been published so far back as 1730. It is contained in a set of excellent engravings afterwards painted

by hand in a work entitled "Twelve Months of Flowers," "designed by Peter Casteels, from the collection of Robert Furber, gardener at Kensington, and engraved by H. Fletcher." In the June number appears the purple Sweet Pea. At that time the flower was very loose and straggling, the standard small and reflexed, and the wings very large and awkwardly arranged. The colour was a greyish-purple, shaded brick red. An explanatory catalogue issued by the above-mentioned Robert Furber was the first trade offer of Sweet Peas, the purple variety only being offered. The possession of this seed may doubtless be ascribed to Dr Uvedale, to whom it had been sent by Cupani.

A work entitled the "Universal Gardener and Botanist," was published some years later, and under the heading of *Lathyrus*, we find "Varieties of, are purple-flowered Sweet Pea, white-flowered Sweet Pea, variegated or Painted Lady, Sweet scented pea." From this notice we are able to determine the fact that at that time there were three distinct varieties known and cultivated.

Subsequently, in 1754 we find "The Scots Gardeners' Director" by James Justice, F.R.S. Edinburgh. Rivalry between Dutch and British seedsmen was very keen at this period; the former making a great effort to capture the trade in flower seeds, catalogues of an unreliable character being distributed broadcast throughout the country. The said Justice was evidently indignant, for he observes of their catalogues that "they are neither rightly named botanically or otherwise." He then proceeds to quote from one catalogue as follows:—"No. 176, *Lathyrus odorato flore albo et rubro variegato*. No. 177, *Lathyrus odorate flore purp. et rubro variegato*." Says Justice, "The first named is the *Lathyrus angustifolius flore ex albo et rubro variegato odorato*, mentioned by J Bauhinus 1650. This is the Painted Lady pea vulgo,

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a variety seminal of the 177, but not so sweet smelled," and respecting 177 he says, "This is the *Lathyrus distoplatyphyllus* of Hort. Cathol.: the sweet-scented pea vulgo; of this kind of pea there is both the purple and white flowered."

It is most interesting to know that the painted Lady Sweet Pea is the parent of the race in the opinion of Justice. This view was shared by the late Mr Henry Eckford, who in a complete list styled the Painted Lady "the original variety." That this variety was known to botanists before the Sicilian purple there seems no reasonable ground to doubt. Pickering, on the authority of G. C. Sprengel in "Gehimniss der Natur," published in 1793 at Berlin, stated that "Linnæus received the Sweet Pea from Ceylon, and on this account calls it the *Lathyrus odoratus* of Ceylon." Strange to relate this plant is not mentioned anywhere in "Flora Zeylanica" by Linnæus, published in 1747. The omission of this plant from such an important work, is possibly, the reason why other botanists may have drawn the attention of this eminent authority to the fact, for shortly after, in his "Systema Plantarum," we find him adopting the name from the work of Burmann published in 1737.

The Sweet Pea is indigenous to Sicily and Sardinia, the flowers being purple coloured, while those of Ceylon are rose coloured. Mr Dicks' researches, which appear to have been most thorough, have induced him to support the opinion of Mr G. Sprenger, an eminent authority at Naples. He says, "I am compelled to question the correctness of the position taken up by Justice and Eckford—the purple and white varieties are of Sicilian origin, while the Painted Lady and most probably the red may have their origin in Ceylon."

French botanists do not appear to have done much with the Sweet Peas. The earliest work so far as can be ascertained is entitled "Plantes de la France,"



Photo. by

"EVELYN HEMUS"

A. J. Campbell

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“Decrites et peintes d’apres nature par M. Jaume Saint Hilaire, Paris, 1809.”

Returning again to work accomplished in the United Kingdom we shall in a few words bring our notes to more recent times. Earlier in this chapter reference was made to the first trade offer of seed by Robert Furber in 1730. Subsequently in 1754 Herren Dirk and Voorhelm also achieved some notoriety in this respect.

From the year 1793, however, we may trace the beginning of better things, although at that period there may not have been much to denote the fact. At the sign of the Orange Tree in Fleet Street, London, John Mason (the original founder of the business of Cooper, Taber & Co.) issued a catalogue wherein were quoted quite an interesting variety of Sweet Peas. Black, purple, scarlet, white and Painted Lady, were then available for the enthusiasts of that period. This was clear evidence that progress was being made and that intelligent work had been done during the previous thirty-nine years. There is nothing to show who was responsible for the improvements. Catalogues subsequently issued by the same house showed no alteration. In 1837 Mr James Carter (the founder of the well-known firm in High Holborn, London) in his first catalogue quoted black, Painted Lady, purple, scarlet, white, striped and yellow varieties. Thirteen years later, in 1850 Messrs Noble, Cooper & Bolton, successors to John Mason and predecessors of the present firm of Cooper, Taber & Co., added new large, dark purple, and mixed, showing that from the parent variety, two selections had been made. In the years immediately following, it was the custom for wholesale seed merchants, when quoting for vegetable seeds, to quote also,—with other annual flowers, Sweet Peas mixed, named, and white. The system which began in

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1873 continued until 1881, when Sweet Peas were simply offered as mixed, and named varieties.

Reverting to 1860 we find a blue-edged variety was offered by Mr James Carter to which the Royal Horticultural Society gave a First Class Certificate at a later date. Twenty-three years later (1883) this same variety was first named Blue Hybrid. It was understood to be a true hybrid between the perennial Lord Anson's Blue and the annual white Sweet Pea. It was one of a series of experiments that were made, with the definite object of procuring a real blue-flowered kind, by Colonel Trevor Clarke of Daventry. Not the least interesting fact in this connection is that Butterfly, offered by Messrs Sutton & Sons, in 1880, is practically identical with this variety.

Invincible Scarlet, for which a First Class Certificate was awarded to Mr Stephen Brown on July 11th, 1865, was for many years regarded as a very handsome and beautiful acquisition. Until quite recent years there were many growers who were still loud in their praises of its undoubted worth. It is generally admitted that the parentage of several of the more brilliantly coloured Sweet Peas of to-day may be ascribed to this one-time popular sort.

The well-known Erfurt firm of Messrs Haage & Schmidt were responsible for the distribution of Crown Princess of Prussia in 1868-1869, and from the same source in 1873-1874, a lilac variety named Fairy Queen was sent out. The common failing to-day of imagining and claiming superiority for certain new kinds was not unknown at the time the last-mentioned variety was distributed. Fairy Queen was claimed to be superior to Captain Clarke, but later on, the former was omitted from the list of named varieties, and the latter retained possession of the field.

Violet Queen, offered by the Messrs James Carter in

1880, gave us something quite new in colour, but the quality of the flower in other respects was poor. In 1882 a variety named Adonis was offered by the same firm, but the newer New Carmine Rose, afterwards named Princess Beatrice, raised by Messrs Muskett & Sons in 1883, quite displaced its poorer prototype. Descriptive names, which up to this period it had been the rule to apply to new Sweet Peas, fell into disuse, and instead the craze for naming the flowers after distinguished individuals or friends of the raiser came to be recognised as quite the proper thing to do. A glance at any Sweet Pea catalogue of to-day will prove most conclusively how much this practice has come into vogue.

The late Mr Henry Eckford, whom all Sweet Pea lovers will bear in grateful remembrance for what he achieved in his day and generation, came on the scene in 1882. His Bronze Prince, introduced at that period, was an earnest of the good things that were to emanate from the same source continuously for many years to come. Mr William Bull, of Chelsea, was responsible for the distribution of this excellent variety. Mr Eckford introduced among other popular varieties Cardinal and Indigo King in the first Jubilee year (1887). In 1888 Splendour, Apple Blossom,—which was very popular for several years, and Princess of Wales were distributed, and each variety was highly regarded by growers and others. A fine white variety with black seeds named Mrs Sankey was sent out in 1889, and in the same year the popular Captain of the Blues and Mrs Gladstone also saw the light of day. Countess of Radnor—the fore-runner of the beautiful Lady Grisel Hamilton, still regarded with favour in some quarters, and Lottie Eckford, were in evidence in 1890, and in the following year there were distributed quite a number of promising varieties, viz., Princess Victoria, Empress of India,

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Senator, Dorothy Tennant, Monarch, and Duke of Clarence. Even more freely were New Sweet Peas distributed in succeeding years. In 1892 Lemon Queen, Mrs Eckford, Emily Eckford, Her Majesty, Ignea, and Waverley.

1893 saw the introduction of other new and choice varieties, notably Stanley, Royal Robe, Gaiety, Beauty, Venus, Peach Blossom, Lady Penzance, Meteor, Ovid, Firefly, Lady Beaconsfield, and Blushing Beauty. We might go on with a description of the more recent additions from this firm, but will be content to mention some of the more noteworthy varieties, as follows :—

Blanche Burpee, introduced	1895
Prima Donna	1896
Prince Edward of York, introduced	1897
Triumph	„
Lady Grisel Hamilton	1898
Black Knight	„
Prince of Wales	„
Sadie Burpee	1899
Duke of Westminster	„
Mrs Dugdale	„
Duchess of Westminster	1900
Miss Wilmott	1901
Dorothy Eckford	1902-3
Mrs Walter Wright	„
Jeannie Gordon	„
King Edward VII.	„
Scarlet Gem	1904
Queen Alexandra	1906
Henry Eckford	„
Queen of Spain	1907
James Grieve	1908

Within the years mentioned the varieties enumerated in the above list have done much to popularise the

flower, and during the period covered by the operations of the National Sweet Pea Society, these same varieties have been represented in winning stands over and over again. Mr Eckford not only widened out the range of colours represented by the Sweet Pea but also improved the form of the flower in several particulars, as well as adding to the robustness of the constitution of these plants.

We must not forget the labours of the late Mr Thomas Laxton of Bedford, who among many other good results achieved on behalf of horticulture, succeeded in improving and adding to the attractiveness of the Sweet Pea. He in 1877 set himself this self-imposed task, and in 1883 Invincible Carmine was certificated. From the same raiser we received the once popular Madame Carnot, Etna, Carmen Sylva, Invincible Blue and Rising Sun—the latter probably taking its name from the orange colouring noticeable in the flowers. From the same source in later years the sons of Mr Laxton distributed Princess May and Sultan.

It hardly seems credible that fourteen years have elapsed since Messrs Haage & Schmidt introduced Bronze King, a free-flowering robust kind especially suitable for garden embellishment.

In more recent years we have to look in other directions for the great advance that it is our pleasure to chronicle. New and especially noteworthy names must be added to the list of raisers of Sweet Peas. Each one has already done much in the work of improvement, and the displays made at the leading shows throughout the United Kingdom during the summer months, have quite revolutionised the methods of exhibiting the Sweet Peas and taught the flower-loving public the immense possibility of these flowers when the plants are properly cultivated. Among those whom we are pleased to mention in this category, are the following: Mr C.

W. Breadmore, of Winchester, Messrs Dobbie & Co., Rothesay, N.B., Messrs Sutton & Sons, Reading, Mr J. S. Eckford, who carries on the business of the late Mr Henry Eckford, at Wem, Shropshire, Mr Silas Cole, Althorp Park, Northampton, Mr Stark, Great Ryburgh, Mr Unwin, Histon, Cambs., Messrs Isaac House & Son, Westbury-on-Trym, Messrs Hurst & Son, Houndsditch, Messrs Watkins & Simpson, Covent Garden, Miss Hemus, Upton-on-Severn, Mr H. J. Jones, Lewisham and Keston, Mr R. Bolton, Carnforth, and others, both amateur and professional, who in many ways are seeking to improve the Sweet Peas.

The Sweet Pea Bi-Centenary Celebration in 1900, as we have remarked elsewhere, was a great event, and from that period the progress of development has been most marked. The exhibitions of the National Sweet Pea Society, that have been held each successive year since that date, have been one royal progress. The Sweet Peas have captivated all hearts, and not a season passes without many additional admirers falling a ready prey to its fascinating influence.

In 1901 the first show of the "National" Society was held in the Royal Aquarium, Westminster, London, and well do we remember the day for the dirt which bespattered the table covering, etc., owing to heavy rain of a thunderstorm that raged that day, percolating through the roof to the discomfort of everybody. Earl's Court and subsequently and finally, the new and beautiful hall of the Royal Horticultural Society, Vincent Square, London, have been the place of venue for the exhibition. Here, the Society appears to be quite at home, ample accommodation being provided for the proper exhibition of the flowers.

Before concluding this brief historical record of what has been done in the past, we must call special attention

to the advent of the Sweet Peas with frilled or waved segments.

In 1901 Mr Silas Cole, Lord Spencer's able gardener, at Althorp Park, Northampton, exhibited a new Sweet Pea of the description just mentioned. So distinct was it from anything else in cultivation and the quality of so high a character that, the authorities of the National Sweet Pea Society had no alternative but to grant the new variety a First Class Certificate. We remember in 1902 being in competition with Mr Cole in the table decoration in which the new Countess Spencer was used for the display, and also have a vivid recollection of the beauty of the flowers, and the immense advantage their fine quality gave to the arrangement.

Mr Robert Sydenham, of Birmingham—who probably has done as much as, or more than, most Sweet Pea specialists in popularising the flower, by cheapening the acquisition of both small and large collections of good quality—secured the stock of this handsome sort, most of which, we understand, was sent to California, for seed purposes. Unfortunately the variety was not fixed, in consequence of which, when the resulting seeds were distributed in the year succeeding, variations were abundant. In subsequent years there has been an endeavour to get the variety properly fixed, but with uncertain success. When represented in true form, it is one of the most lovely Sweet Peas imaginable.

John Ingman was exhibited in 1903 as a new variety of the Countess Spencer type, but after the experience with the original of the type, the greatest caution was observed. At the same time Mr Unwin, exhibited or brought into notice, his beautiful seedling Gladys Unwin, that growers at first were disposed to regard as identical with Countess Spencer. It was different, however, in its form; the wings being closer than those seen in its rival. Gladys Unwin was put into commerce

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by Messrs Watkins & Simpson of Covent Garden, and was commended in 1904. John Ingman was on this occasion granted a First-Class Certificate. Sweet Peas with waved standards continued each year to receive attention, the years 1905 and 1906 being responsible for the introduction of, among others, Helen Lewis, Mrs Charles Foster, Mrs Hardcastle Sykes, Audrey Crier, and Etta Dyke.

During the same period the striking flowers of Queen Alexandra were exhibited and the marbled variety Helen Pierce. The nearest approach to a so-called yellow was also seen in the new Mrs Collier, which has already been superseded. The three varieties above-mentioned and St George are representatives of the erect, smooth standard type of the Sweet Peas.

Evelyn Hemus was a notable novelty of the waved type exhibited in 1907.

The Spencers and Unwins are sure to increase in popular esteem. The pleasing tones of colour, and the butterfly-like form of the blossoms possess a charm that is absent in the more even flowers of the Eckfordian type, so beloved of the older florists. The display of the waved flowers at the 1908 show of the National Sweet Pea Society was a feature of more than ordinary interest. Doubtless, in time, we shall have other variations; but in giving encouragement to them, care must be taken that the robust character of the Sweet Peas is retained.

In closing, it is only fair that special reference should be made to the work of our American cousins. They have worked hard and enthusiastically in the interest of Sweet Pea lovers. To them we are indebted for an immense quantity of seed raised year by year, by which means many of the choicer varieties are the more speedily available for the small and sometimes impecunious grower, who loves the Sweet Peas quite as

THE GARDEN



Photo. by

"HANNAH DALE"

A. J. Campbell

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much as other growers in more fortunate circumstances.

Messrs W. Atlee Burpee & Co., Messrs C. C. Morse & Co., San Francisco, and Mr J. C. Vaughan, are largely responsible for promoting the cultivation of the Sweet Peas in America. For the three following varieties, America, Navy Blue, and Helen Pierce, we have reason to be grateful. American efforts with the Spencer type will, doubtless, in due time, be seen on this side of the Atlantic. Much is thought of Burpee's White Spencer in some quarters, but we must wait before we express our opinion on this and others of the same type.

CHAPTER III

COMPLETE LIST OF SWEET PEA BOOKS¹

CURTIS, CHAS. H.

Sweet Peas and their Cultivation. London (1908).

CLARK, G. D.

Les Pois de senteur. Dover (1907).

DEAN, RICH.

The Culture of Sweet Peas. Second Edition.
London (N.D.).

HOBBIES' HORTICULTURAL HANDBOOKS.

The Sweet Pea. Illustrated. London (N.D.).

HUTCHINS, REV. W. T.

All about Sweet Peas: A complete epitome of the
literature of this fragrant annual. Second
edition. Philadelphia (1894).

Sweet Peas up to Date, with a complete description
of all known varieties, including novelties for
1899. Second edition. Philadelphia (1899).

Sweet Pea Review, by the Sunset Seed and Plant
Company. Second edition. San Francisco
(1897).

NATIONAL SWEET PEA SOCIETY.

The Sweet Pea Year Book for 1905. The official
publication of the National Sweet Pea Society.
Edited by Horace J. Wright and Charles H.
Curtis. Wandsworth (1905).

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C. Harman Payne.

LIST OF SWEET PEA BOOKS 25

The Sweet Pea Annual, 1906. Edited by Horace J. Wright and Charles H. Curtis. Wandsworth (1906).

The Sweet Pea Annual, 1907. Edited by Charles H. Curtis and Horace J. Wright. Brentford (1907).

The Sweet Pea Annual, 1908. Edited by Charles H. Curtis and Horace J. Wright. Brentford (1908).

STEVENSON, THOMAS AND MAY, W. F.

How to grow Sweet Peas. London (1908).

SYDENHAM, ROBERT.

All about Sweet Peas. Birmingham (1901).

THE SWEET PEA BICENTENARY CELEBRATION.

Report on the Celebration of the Bicentenary of the introduction of the Sweet Pea into Great Britain. London (N.D.).

THOMAS, H. H.

Sweet Peas and How to Grow Them. London (1909).

WYMAN, A. P. AND KAINS, M. G.

A Second Account of Sweet Peas. Bulletin 127. Cornell University, Horticultural Division. Ithaca, N.Y. (1897).

ZVOLANEK, ANT. C.

Culture and History of Winter-flowering Sweet Peas. Bound Brook, N.J. (1907).

CHAPTER IV

SWEET PEAS OF THE CUPID AND BUSH TYPES

THESE are types of the Sweet Peas that have never appeared to "catch on" in this country, and it is not difficult to understand the reason for this apparent apathy on the part of growers. They are, no doubt, of some interest, as all flowers are, more especially those of a hardy character. But unless these two forms possess some specially good trait in their character to warrant their more extensive culture, we fear they will receive even less attention in the future than they have in the past. The Sweet Pea is valued for its free and vigorous branching growth, on which is evolved as a consequence a profuse display of beautiful blossoms on long stems. But in the case of the types under notice these characteristics are conspicuous by their absence. The dwarf character and stunted growth of the Cupid varieties can hardly be regarded as a thing of beauty, although for just a short period their procumbent or creeping style of growth is something to interest and please. We have seen them growing in pots, and at their best they appear to possess little that is commendable. We have also seen them in the nursery grounds of Messrs H. Cannell & Sons, at Eynsford, Kent, where they have been represented in better form than we have seen them elsewhere. It was our good fortune to inspect the collection there in the early days of July, and at that period they were certainly interesting and pretty, but could hardly be regarded as

of much practical worth. The growths, which are distinctly short-jointed, were evolving sprays of blossoms at each joint, and the plants were represented by a mass of blossoms on growths that were well spread over the surface soil. We imagine a great amount of work would be entailed in maintaining such plants in a satisfactory condition, and at the best we should regard their period of blossoming as somewhat short-lived. Several varieties of Sweet Peas represented in the true and original form are now to be found in the Cupid and Bush types, and as we value the Sweet Pea generally for its freedom of growth and continuity of flowering, we fail to see on what grounds these Cupid forms can claim attention for practical purposes.

They originated in California in 1893, in the gardens of Messrs C. C. Morse & Co., Santa Clara. Messrs W. Atlee Burpee & Co., of Philadelphia, had the distinction of distributing the first Cupid novelty, and Mr James Douglas, the well-known florist, who was at that time in charge of the gardens at Great Gearies near Ilford, Essex, succeeded in growing a few plants very satisfactorily. These were placed before the Floral Committee of the Royal Horticultural Society, Westminster, in the closing days of June 1895. Naturally such a representation was the cause of considerable interest; some men regarding them in the nature of freaks, although they were, of course, quite unique.

The Floral Committee on that occasion made an award of merit in favour of those who introduced the novelty, but little appears to have come about in consequence of the notoriety then gained. Some authorities, whose opinion must be respected, fail to see any real value in the Cupid forms; the beautiful garden plant as represented in the original type renders the Cupid forms insignificant by comparison. Naturally

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our American cousins gave considerable attention to such a novelty raised on their own continent.

In the meantime, however, although not raising new varieties in any great number, they still feel a certain interest in them. There are gardens in this country also, where the Cupid varieties have received more than ordinary attention; those responsible for their cultivation making special provision for doing them well. We are of the opinion that these plants must have the free air of the country to be seen at their best, as the dirt and accumulations of smuts, etc., of small gardens in and around large towns represent the Cupid forms very unfavourably, and in consequence such gardens can hardly be regarded as a suitable location for them. There is a method of growing them as margins to hardy flower borders, on low ridges of soil that has been deeply dug and specially prepared, and in such circumstances they appear to do fairly well. At one time the National Sweet Pea Society made provision for plants to be exhibited, but we have failed to trace that any encouragement has been given to them latterly in the schedule of prizes of this special Society. Although we do not speak in such deprecatory terms of the Bush varieties we cannot say much in their favour. They never attain a very great height; as a matter of fact they are only of medium height and distinctly less robust than their taller rivals. We saw them growing in pots in the earlier days, where they made a pretty little picture, but as they possess less vigour than the taller-growing sorts, and are less free and branching in consequence of their shortness of stature, they fail to attain to any praiseworthy notoriety. They may be grown in pots, tubs, boxes, or any such receptacles, but we should hesitate to give such attention to them, while we have so many other beautiful things available in the taller growing sorts.

The opinion generally held is that neither of these two types are worthy of serious attention, as they are not wanted except possibly by a few persons who are specially interested in their novel character. Those who like novelty in the garden should, of course, try a few, but we fear the result will not give the satisfaction or pleasure that some may anticipate and reasonably expect. Plants of the Cupid form seldom exceed four inches in height.

CHAPTER V

EARLY SUPPLIES OF SWEET PEAS UNDER GLASS

THE culture of Sweet Peas for early flowering is a subject regarding which very little appears to have been done. From time to time we are treated to an article in one or other of the horticultural papers, wherein the writer endeavours to enlist the sympathy and support of his readers, when propounding methods for ensuring a display of these fragrant blossoms in both the winter and the spring seasons under glass.

We do not doubt that it is possible to grow Sweet Peas and flower them fairly satisfactorily in the winter season, but, after all, we fail to see what real advantage there is in proving their adaptability to this newer form of culture.

The flowering period of the Sweet Pea is sufficiently lengthy already without unduly prolonging it or causing it to begin at an unnecessarily early date.

Were enquiry to be made of most Sweet Pea enthusiasts why they appreciate the flower, they would in many cases, we feel sure, be quick to acknowledge that the beginning of its flowering period is the harbinger of our summer, which, when normal is almost unsurpassed for its charms in so far as gardening is concerned.

We have far more sympathy with the endeavours made by a few enterprising growers, who desire to cultivate their Sweet Peas so that good flowers, and plenty of them, may be gathered, say, in the early days of May. The more genial weather of this period fully



"MRS. HARDCASTLE SYKES"

TO THE
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justifies growers in striving to flower this subject at an earlier period under glass.

By the period above-mentioned, too, most of the flowers of bulbous subjects, as well as a large number of spring flowering plants will be long past their best and, possibly, have finished their display. It is at such a season that well-grown blossoms of the fragrant Sweet Pea can be more fully appreciated.

That there are certain well-known varieties that flower much earlier than others we are well aware, and for early displays these special sorts have a value that later kinds do not possess. These naturally early varieties are especially valuable to amateur growers, who do not always possess glass-houses large enough to do full justice to this subject, when culture under glass is contemplated. To grow Sweet Peas satisfactorily under glass, an essential factor is a roomy structure, where abundant ventilation can be provided, as circumstances and climatic conditions demand, and where ample room can be provided for the grower to get among his plants with ease.

The question therefore arises, how is an early supply of Sweet Pea blossoms to be brought into effect?

This is not a difficult matter after all, provided space and other essentials, that we have just mentioned, can be provided. A most successful grower of Sweet Peas for market, who has produced some of the finest flowers under glass that we have seen, commences work in this connection in the closing days of each year. He pins his faith to a sowing made during the last week in December. The glass structure is about two hundred feet in length and rows of Sweet Pea seeds are sown throughout the whole length of this airy structure. That it may be a commercial success, it is important that space be economised as much as possible. The rows are arranged from three to four feet apart, and with this amount of

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space between them, it is possible to attend to the wants of the Sweet Peas as they progress. In allowing this space between the rows sufficient room is ensured for watering and tying, etc., and for gathering the blossoms when the flowering period is reached.

Most market glass-houses have Mother Earth for the floor, and on this account the culture of Sweet Peas is made all the easier. The lines in which the seed is sown are usually forked over, and prepared soil of a rich, yet fairly light, character, to the depth of several inches is placed thereon. Those who can prepare the soil in more drastic fashion, so that there is a free root run for the plants, promote their chances of success to a very considerable degree. Where the soil is poor, or of a shallow description, we know of instances where floor boards are fixed on edge on both sides of the rows and prepared soil filled in to provide the necessary plant food to last throughout the whole of the growing period.

We know of other instances where the centre of a long glass-house has been used for growing Sweet Peas under glass in another fashion. This space has had six-inch boards adjusted on edge on both sides of the bed, and the latter made by filling in prepared soil of a rich and lasting kind to the level of the boards. The rows have then been sown crosswise and in this way a nice representation of quite a large number of varieties have been accommodated.

Those who have airy glass structures in private gardens may succeed in growing Sweet Peas satisfactorily, but there is always the danger when growing many other subjects in the same structure, of endeavouring to serve the best interests of the whole of them and doing none of them well. Tubs, large pots, and boxes may be utilised in such cases, and if these be carefully crocked and good soil requisitioned for the purpose, we believe good results will accrue.

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Assuming the seeds be sown in the closing days of December, as we have suggested, and the temperature be maintained at about 45 degrees, germination will soon take place, and the subsequent development of the plants be of a distinctly sturdy character. Staking should be done in good time, and small twiggy stakes be used for the purpose. The young plants will not need much water at first, but the soil must not be allowed to get dry, or trouble from insect pests will very soon be apparent.

Subsequently, as the plants begin to make growth more freely, moister conditions of the soil should be made to prevail. Taller branching stakes should be inserted for their support, and as the plants begin to avail themselves of this further means of supporting their ample growths, an occasional syringing on fine days will be highly beneficial to them.

All too often there is a desire on the part of growers to increase the temperature at too early a date and this, not seldom, is a cause of failure. When Sweet Peas are sown at the period above-mentioned, they should be maintained in cool conditions (say 45 degrees or thereabouts) until the end of March, from which date the temperature should be gradually increased to 55 or 60 degrees, and even a few degrees more when bright, sunny weather prevails. Growth has to be promoted during the latter part of March and throughout April, subsequent to which period the temperature should be gradually reduced that the shoots may become harder, and better able to yield large and handsome blossoms on a good length of footstalk.

The surface soil should have a top dressing of rich compost at this period, and weak doses of liquid manure be applied at intervals to give a much-needed stimulus. Periodical syringing with clear tepid water on the morning of bright days is a great help, and if the glass structure

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be ventilated so that draughts are avoided it is safe to anticipate a good yield of beautiful Sweet Peas.

By this system of culture it should be possible to gather fine flowers in late April or early May and for a long period subsequent thereto.

We know of instances where Sweet Peas are sown under glass in September and October; the resulting plants flowering in the succeeding March in fairly cool conditions.

Where only a few plants are wanted the seed should be sown in pots, placing five seeds in each pot measuring five inches in diameter. After germination, the seedlings should be placed on shelves near to the glass, and kept fairly cool to maintain them in sturdy form. When the roots have well-filled the pots repot into larger ones, using those eight, nine, or ten inches in diameter. Use good soil, crock the pots carefully, and always see they are washed clean beforehand.

Suitable soil may be made up of the following ingredients; three parts good fibrous loam, one part well-rotted horse manure, a sprinkling each of leaf mould and coarse sand. A five-inch pot of bone meal to each bushel of soil, will provide additional plant food. Mix well before using, and pot with care.

A January or early February sowing will also give good results under glass.

CHAPTER VI

CULTURE OF SWEET PEAS IN TUBS AND LARGE POTS

THE title of this chapter is not a very attractive one, yet it is justifiable as there are so many enthusiastic admirers of the Sweet Pea who have no other means of cultivating this delightful subject through want of the usual facilities. They have, therefore, no option but to have recourse to the use of tubs and large pots.

The culture of the Sweet Pea in such circumstances appeals more particularly to those whose gardens—or what are more often termed by sarcastic individuals, back-yards—are of a somewhat circumscribed area, where all too often the soil is of too unsatisfactory a character for lovers of the Sweet Pea ever to hope to bring these flowers to anything approaching perfection. Not seldom, these so-called gardens are situated in localities where the atmospheric conditions are quite good enough to cultivate the plant successfully, but where, through the abnormal price of the ground and excessive ground rents it is impossible for the owner to allow the householder more than a very limited space for garden purposes. We sympathise with would-be growers placed in such unenviable circumstances, and we are pleased to congratulate those who have sufficient courage and confidence in their own ability to make an attempt to cultivate the Sweet Pea in tubs or pots notwithstanding.

He may live within five or six miles of the Metropolis, and it may be quite out of the question for the would-be grower to possess a garden worthy of the name. He

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may have a small garden space at the back of his house, which at the best may not be very productive, but which may, by the use of the Sweet Pea and kindred subjects, be made interesting and possibly attractive. Sweet Peas in tubs or pots therefore, have an especial charm for such enthusiasts, and we are pleased to give advice to those who are prepared to take the necessary trouble entailed in growing them satisfactorily.

There are those also whose gardens may be well-filled with so many other subjects that it is quite impossible to grow the tall-growing Sweet Peas in beds and borders with the other plants.

Growers whose gardens are of a limited area, are only too pleased to make the most of their space, using every available inch in creating a pretty display, and thus making the surroundings of their home more interesting. It is astonishing what can be done by a little forethought and careful attention subsequently. Even a back-yard may be made a "thing of beauty" throughout the whole of the summer months by the use of Sweet Peas in tubs and pots.

Our first concern is to get receptacles of the right description, and in small gardens it is out of the question to think of utilising tubs, etc., that are over-large. We know of many persons who set their mind on acquiring large petroleum casks, and sawing these in halves, each cask thus making two large tubs suitable for plant culture. But for Sweet Peas in areas of a circumscribed nature these tubs are altogether too large. We would rather use old margarine pans or lard-tubs, or when these are not available, nine or ten-inch pots for this purpose; we are quite confident that in such receptacles these plants can be flowered satisfactorily.

We should be disposed to paint these tubs a pleasing shade of a green—deep olive green is best, and holes, of course, should be bored in the bottom of the tubs to



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provide the necessary drainage, otherwise the plants will not succeed very well.

Both pots and tubs should be crocked with the greatest care as a proper system of drainage is essential to their well being. Fairly large pieces of broken pots or broken slates, or anything of this nature should be used to cover the holes in the bottom of these receptacles; the larger pieces being covered in turn with smaller pieces of potsherd; these latter being covered with any rough material, such as fairly long manure, or anything of this nature to make good drainage. Good, lasting soil, of course, is absolutely necessary, as without this it is impossible to produce Sweet Peas that will flower well and produce blossoms of good quality. And after all, what is more delightful during the summer months than to gaze upon the plants from the windows at the rear of the house, where their dainty flowers seldom fail to gladden the hearts of those who grow them. They never fail to create a pleasing floral picture to reward the grower for his labour of love, and also compensate him for the disappointment of being without a garden worthy of the name.

To grow Sweet Peas in tubs, etc., the compost should comprise the following: loam, two parts, well-decayed manure, one part, and one part made up of an equal portion of leaf soil and sand or road grit. These ingredients should be thoroughly well mixed, and if there can be added thereto a five-inch pot-full of bone meal to every bushel of soil, we are quite certain sufficient plant food will be present in the soil to last the plants through their flowering period. Fill in the soil almost to the level of the receptacle used, making this fairly firm; all will then be in readiness for sowing the seeds. This work should be done in good time. All too often the sowing of Sweet Pea seed is left until too late in the season. By beginning in good time we may have the

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assurance of the plants flowering sooner to brighten the surroundings of our home, and this is an achievement worth striving after.

We prefer to sow our seeds in the tubs, etc., outdoors in the closing days of February, or in early March at the latest. This subject being a hardy annual, growers may rest assured that, seeds sown at the time mentioned will come through the peculiarities of our climate satisfactorily and will yield good results in the flowering period.

So many growers, especially those who have a limited experience—as must necessarily be all too frequently the case with growers in such circumstances, are disposed to sow the seeds too thickly. This is one of the chief faults of most enthusiasts, no matter what their circumstances may be. Sow the seeds thinly, and that good results may accrue, we should be disposed to sow them one and half to two inches deep, at intervals of three inches in the surface soil. It is a good plan to sow the seeds in a ring rather than dispose them equi-distant over the whole of the surface soil, otherwise the seedlings in the centre of the pot or tub may subsequently, through overcrowding, fail to do well. This will be quite close enough, assuming all the seeds germinate and evolve plants. Should the whole of the seeds germinate we should be disposed to remove one here and there in order that full justice may be done to those that are retained. It is astonishing what one plant will produce in the way of flowers in the course of a season. When growers learn to appreciate the great possibilities of the Sweet Pea they will understand the reason for this thinning out of plants that are somewhat crowded.

Some growers prefer to raise their plants under glass, that is to say, in the greenhouse or conservatory, and where they have this advantage it is something they should take full advantage of. In the ordinary course with plants raised under glass, it is usual to sow the

seeds in the early spring, placing five or six seeds in a pot five inches in diameter. When the seedlings are well through the soil, stand the pots on shelves near to the roof, where the plants may be accorded a light and airy position, and where their growth may be kept sturdy. As they begin to progress and root action becomes very marked, it is wise to shift the plants into pots of larger size, doing this with the greatest care. In the course of time, when these larger pots become full of roots, the plants should be repotted, using pots nine or ten inches in diameter, in which sized pots the Sweet Peas should be flowered. By this time the spring season will, of course, be well advanced, and that the plants may be gradually hardened off they should be placed in a frame outdoors, or in sheltered quarters, where the hardening off process may be satisfactorily accomplished. By the early days of summer, these same plants may be stood out in the open where there future progress, assuming all details of culture be carefully followed, will be of a satisfactory nature. Readers who have not the use of a greenhouse or conservatory in which to raise their plants in this artificial manner, may utilise spare rooms or windows in a warm aspect, placing the pots containing the seeds in a box or large pot, and covering this with glass. Either receptacle makes a most excellent little propagating apparatus in which the seeds germinate quickly and satisfactorily. Subsequent to this period the pots of seedling plants should be taken out of the propagating box or pot, and stood in the window, where they may derive the benefit of sun as often as possible, and an abundant supply of air. When all danger of frost and unpleasant weather is past, they may be stood outdoors in a sheltered corner of the garden or back-yard, and be subsequently planted in tubs or pots filled with good soil to which we referred earlier in this chapter.

While our remarks more especially apply to growers with very small areas at their disposal, we must not forget the claims of those who live in the country, and who wish to make the most of certain specified quarters in their garden, where perhaps they may have the advantage of a good terrace garden in which to dispose their tubs, etc.

We should be disposed in such circumstances to utilise the services of the largest possible tubs for this purpose, as with the pure air of the country and more open conditions, space is usually unlimited, and a bolder and more imposing display may be made with plants grown in this fashion. A dozen to twenty tubs along a terrace or garden walk is distinctly pleasing, and those who want a display of a somewhat novel character would be well advised to try the cultivation of the better Sweet Peas in the manner herein indicated.

Of course the plants must be staked, and for this purpose there is nothing better than hazel sticks of good length. We can hardly expect our Sweet Peas to grow as tall when planted in tubs and pots as they would were they planted in the open border.

Stakes, from five to six feet high, should be utilised in every case, as this will give the vigorous growths ample means of making headway, and also assist in maintaining them in position, in which case they will yield a wonderful display of blossoms.

Watering, of course, is all important. As Nature cannot supply the usual moisture which is available when the plants are growing in beds and borders outdoors, the grower must have free recourse to the use of the water can. On no account must the plants be neglected. Not a day should pass without a careful inspection of both tubs and pots, and it may be necessary in some of the hottest days to go through the collection once or twice each day, in order to supply the needs of the plants when

at their best. Root action is extremely vigorous in the height of their flowering period, and unless moisture be forthcoming at this time it is unreasonable to expect a display such as we have been led to expect from these plants. In this connection, too, manure water plays an important part. Although when the compost was first prepared plant food was mixed with the soil, there is not sufficient of this readily available to meet the requirements of the plants throughout the whole of the season. For this reason, therefore, we should be disposed to apply manure water in weak doses, right throughout the flowering period, alternating clear water with manure water. Follow this rule throughout the summer and early autumn, and we are satisfied excellent results will accrue. Manure water should vary in its character; not only should animal manures be utilised but guano and well-known plant foods which are so freely advertised in the gardening periodicals should be taken full advantage of. It is important that there be a systematic gathering of the flowers, as immediately seed pods are allowed to develop the plants begin to deteriorate. For this reason spent blossoms should be gathered each day, and in this way the well being of the plants be maintained, and continuity of blossoming ensured throughout the flowering period. These latter details may seem matters of small moment, but they are of the utmost importance in promoting the successful culture of the Sweet Peas. It is a plant that yields a most wonderful display in return for more than ordinary care for its healthy condition.

It is important also, that only the very best varieties be grown. Any variety known to possess a weakness of any description, no matter what this may be, should be left alone, and attention be given instead to those of vigorous growth, that possess good colour, and that flower in profusion. In this connection we may mention the names of

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Mrs. Hardcastle Sykes, King Edward VII., Sybil Eckford, Mrs. Collier, Helen Lewis, Etta Dyke, Princess Victoria (Dobbie's), Lady Grisel Hamilton, George Herbert, Evelyn Hemus, Audrey Crier, Sutton's Queen, Dorothy Eckford, Mrs Alfred Watkins, Janet Scott, Countess Spencer, Bolton's Pink, Miss Wilmott, Lord Nelson, Constance Oliver, John Ingman, James Grieve, Black Knight, and Queen Alexandra.



A BEAUTIFUL WHITE SWEET PEA, "DOROTHY ECKFORD"

TO VINU
ALPHABET

CHAPTER VII

SWEET PEAS FOR GARDEN DECORATION

ALTHOUGH good Sweet Peas are abundant, growers need to discriminate between the many excellent varieties that are now distributed by any Sweet Pea specialist however worthy of the name.

So much depends upon the object one may have in view. For garden decoration there are many points that should receive consideration. It does not follow that because a certain Sweet Pea may be an ideal sort for exhibition purposes that it is necessarily of equal value for garden embellishment. It is a fact, nevertheless, that many of our best exhibition varieties are equally good for garden decoration, and where these facts have been proved, it is quite the proper thing to include such sorts in the list of those intended for garden use.

What are the essentials of Sweet Peas for beautifying our gardens? There are several. First of all Sweet Peas for this purpose should be free flowering, otherwise they fail to come within the category of what is regarded as a matter of importance in garden flowers. Their profuse display should also be long continued. Continuity of flowering is a most essential factor as we wish to have our Sweet Peas in blossom over as long a period as possible. We prefer plants that come into flower in good time and that continue their display as far into the late summer or autumn as climatic conditions will allow.

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Another essential of no mean order is that the plants should possess a good sound constitution. Weak and delicate kinds are of no use for the treatment that most so-called garden sorts invariably experience; therefore soundness of constitution is an important factor in a variety suitable for the garden.

A garden Sweet Pea to be of real value must be something quite distinct. Self-coloured sorts are of course the more effective, flowers of this kind standing out more distinctly in the clumps or rows of Sweet Peas, contrasting and blending with greater effectiveness than the more dainty fancy flowers that we all appreciate so highly when a gathering is made and a few blossoms placed immediately before us. The fancy tinted flowers as well as the bi-colours have a charm peculiarly their own and just a few of them could be mentioned as especially noteworthy in this respect. However, for effectiveness, the last-mentioned kinds will not compare with their self-coloured rivals in the garden. There is another essential trait in the character of a garden Sweet Pea that must not be overlooked, and this is the question of habit. Varieties that possess a good habit, *i.e.* those that evolve plants of pleasing and even contour and that are always a "thing of beauty," must of necessity possess a charm that less interesting and less elegant plants never can have. For this reason, therefore, we should look for plants of pleasing habit that also embrace each of the other factors contributing to the building up of an ideal garden Sweet Pea. Quite a number of our sweetest and most beautiful Sweet Peas fail to attain to the standard herein laid down for a good garden variety. Regretful as it is to acknowledge this fact, it is much better to face the matter honestly in the hope that succeeding introductions may attain to a higher ideal in this respect.

It is interesting to note how complex is this question

and the diversity of opinion that exists respecting the better sorts for garden decoration. Doubtless most growers would regard Dorothy Eckford as a splendid white kind for the purpose under notice. It is a free-flowering robust plant with a good habit, that flowers continuously in good form, and is most effective. The same may be said of the bright crimson self King Edward VII. Most growers would give this variety a vote were they asked to do so. Countess Spencer, notwithstanding its variableness of colour, makes a handsome garden Sweet Pea. When in true form the blossoms are pale pink with darker edges, and are very pretty and effective. Helen Lewis and Evelyn Byatt, as representing the orange tones of colour, are excellent indeed, the rosy wings in both cases adding to their effective display. The robust character of Black Knight, together with its freedom of flowering and the fine quality of its shining deep maroon, self-coloured blossoms, stamps it as one of the very best of its colour for the garden. The old and ever popular pale lavender Sweet Pea, Lady Grisel Hamilton, is still regarded with considerable favour. It is a good all-round sort, although small now by comparison with others. This plant is wonderfully free-flowering. A good companion to the last-named variety is Frank Dolby. This is a larger flower of Unwin form and is of a lavender-blue colour, that is rather disposed to be sportive. We like this newer kind very much. Mrs Collier has superseded the once popular Hon. Mrs E. Kenyon as a so-called primrose self. The newer variety is a fine Sweet Pea that blossoms continuously and freely. We have had some wonderful flowers of this fine garden variety. It is astonishing how readily many growers will speak of Helen Pierce as a good garden variety. The pretty, blue-marbled colouring on a white ground makes it a beautiful flower, but it is hardly as effective as a good self would be. In some

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soils too it is less robust than we like to see plants of a garden Sweet Pea. Individual blooms of course are very striking in appearance. Navy Blue, a fine dark blue sort, would be liked much better if the blooms did not bleach so quickly in hot, sunny weather. In other respects it is a good thing for the garden. Queen Alexandra, the intense scarlet self that never fails to please, is a beautiful acquisition for the garden, and in the same connection we may mention the bright orange self Henry Eckford that is seen to great advantage where the friendly shade of tall trees can afford protection from the sun during the warmest hours of the day. Primrose and buff colours as represented in Dora Breadmore, give prominence to a variety valued both for its colour and its free display in the garden. For Jeannie Gordon as a garden Sweet Pea we have nothing but praise. Of robust constitution, free-flowering, consistently good in every respect, this fine bi-colour of bright rose, shaded cream, is one suitable for every garden. Triumph, although much older, is still a good bi-colour and quite distinct. Bright pink standards and white wings, flushed purple, give us a capital garden Sweet Pea on plants with a good habit. Other good sorts worthy of special notice are the following :—Janet Scott, bright pink, tinged buff, very pretty ; George Herbert, rosy red standards and rosy purple wings ; Mrs Walter Wright, mauve standards and blue wings ; Dainty, white with pink picotee edge, very dainty ; John Ingman, rose carmine, veined a delicate shade of the same colour ; Gladys Unwin, a pretty pale pink sort with waved standards ; Duke of Westminster, a distinct colour, rich velvety maroon, overlaid with violet ; Florence Crutcher, a robust plant bearing a profuse display of deep rose blossoms, many sprays having four flowers. Mrs Hardcastle Sykes, a lovely flower

of the Countess Spencer type, colour, a delicate blush pink, and several other newer sorts of promise.

The foregoing will, no doubt, be superseded in a few years, but for the purpose of illustration will give a very good indication of varieties of a type suitable for garden decoration.

CHAPTER VIII

THE PREPARATION OF THE SWEET PEA QUARTERS OUTDOORS

OPINIONS differ as to when the quarters should be trenched, and the garden soil prepared for the succeeding planting period. Leading lights in the cultivation and exhibition of these flowers are very divided in their views. Many recommend deep culture, varying the depth from two to three feet, and pin their faith to this work being done in the autumn. Others again have a decidedly strong feeling in favour of the trenching being carried out in midwinter, preferably immediately after Christmas, or at the turn of the year. We have a preference for autumn operations, especially in the case of heavy soils where long exposure to the weather tends to sweeten the soil and make it more workable, and where the winter's frost from start to finish invariably pulverises and renders friable soils of the heaviest texture, and also those of the most uncharitable nature. This desirable result is less likely to be achieved in the case of heavy and retentive soils when the trenching operations are deferred until the mid-winter and later. With sandy soils and those of a peaty nature, it is easy to understand that exposure to climatic conditions during the longer period is not so necessary. For this reason we recommend as a general practice to commence the preparatory operations in good time. As soon as available ground can be cleared in the autumn, the better. A fine day should be selected on which to wheel

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on to the quarters allocated to the Sweet Peas for the succeeding season, a very liberal dressing of good, lasting manure. This latter should possess as many plant food constituents as it is possible for it to contain. For this reason, we are not disposed to recommend the use of spent hot-bed manure or spent manure from a mushroom bed. These are excellent materials to use for mulching or for forking in in the spring, but for incorporation with the soil when the trenching is done, we would rather use something better. The reader should remember that the roots of the Sweet Pea will have to draw very largely on these resources for their food supply in the succeeding summer, and for this reason it is imperative that the manure should be good and lasting. Those who can afford it, may with considerable advantage add a free sprinkling of bone meal when incorporating the heavy dressing of reliable stable manure, at the time the quarters are being trenched. We would point out the importance of using cow manure with light, sandy, or peaty soils, incorporating with this manure a dressing of superphosphate at the rate of about one pound to eight square yards. This will have the effect of making such soils more retentive and cooler, and at the same time render them more fertile. Garden soils of a heavy and retentive character may be improved by the addition of horse manure and other littery matter. Ashes that are procured from burning the inevitable rubbish that accumulates in every garden, may also be added to such soils with advantage, all these tending to break up heavy soils, thus making the latter better and more congenial for the roots of the Sweet Pea to work in. We are not disposed to add cow manure to soils of heavy texture.

No matter at what period the trenching may be done the surface soil should be left in a rough condition. To break up the nodules of heavy soil into small particles

at such a time would be largely rendering null and void the advantage that should accrue as a consequence of this early preparatory work. When the surface is broken up finely the air passages of the soil become closed, and aeration ceases to a large extent in consequence, and it becomes a case of "love's labour lost."

A matter of considerable importance for the inexperienced to remember, when carrying out the trenching operations, is not to bring the subsoil to the surface. When this has been done inadvertently, Sweet Peas sown or planted in such soil have invariably failed or done badly. We have seen the results accruing from such an indiscretion. The first year the plants have failed in a little while. The second year the results have been better, because by exposure to the weather and the incorporation of other material of a fertilising character the soil has been improved. The subsoil should be kept in its proper position underneath, to be improved and made fertile by a gradual process spread over several years. Deep culture will ultimately make all subsoils available to a reasonable depth in the course of time.

In the spring the quarters over which so much trouble was taken in the previous autumn or winter should be forked over, working in a good dressing of soot that has been stored for some time. Heavy surface soils may be improved by working in at the same time a light dressing of old hot-bed manure, which will still further break up the caked surface and make it more workable.

Before leaving this aspect of their culture it is only fair to the Sweet Peas to say that good results may be obtained from a less rigorous system of dealing with the soils of our garden. In many suburban gardens and other circumscribed areas it is almost impossible to trench the soil in the fashion we have recommended for those who accord their plants a system of high culture

THE GARDEN



Photo. by

"HELEN LEWIS"

A. J. Campbell

TO VINT
AIRBORNE

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and produce blooms of the finest quality as a consequence in more open positions. It must not be inferred, however, that the results in the flowering season will not be satisfactory because the preparatory work in such cases cannot be of such a drastic nature. Beautiful flowers, and these in abundance, will naturally follow where the ground is deeply dug though not necessarily trenched. Even where the quarters are only dug one spit deep and the subsoil forked over, Sweet Peas will do well, provided a plentiful supply of good manure be dug in at the time this work is carried out.

While we believe in high culture for this subject, because the best results are attained in this way, we frankly admit that magnificent Sweet Peas may be grown in confined areas, where, owing to a variety of circumstances, it is not possible to dig and delve as we would do in a more open position.

CHAPTER IX

OF OUTDOOR AND INDOOR SOWINGS WHICH GIVE THE BETTER RESULTS

No matter for what purpose Sweet Peas may be grown, whether for exhibition, garden decoration, or for decorative uses in a cut state, it should be the aim of the cultivator to produce flowers of the very best. Opinion is pretty evenly divided on the question of which method of culture produces the better flowers. In the earlier days few growers followed any other practice than that of sowing the seeds outdoors. Latterly, however, things have changed. Since the advent of the National Sweet Pea Society and the keen rivalry that has developed as a consequence of its annual Exhibitions, leading growers have striven hard to find newer methods of culture whereby they may gain an advantage over their fellows. In that endeavour one of the first matters to receive attention was that of raising the plants in pots and boxes under glass, either in a cool greenhouse, or in a cold frame. Few growers thought of making a sowing in the autumn, and as there was, and is still, a natural desire to produce Sweet Peas as early in the summer as possible, means were taken to raise the seedlings under glass in the early spring and in this way obtain an advantage of a week or two in point of time. For making a display at the early shows this was a distinct gain, and now the question has arisen, Do the flowers lose or gain as a consequence of being raised indoors?

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It is a very open question! Something may be said in favour of both systems. Some growers are of opinion that an indoor sowing gives better results, providing the plants are not coddled. This coddling is always a danger with the inexperienced grower. Others say, if properly treated, an outdoor sowing is better. Then again, should the season be a late one, owing to cold and unseasonable weather, plants raised under glass undoubtedly gain thereby. We know of authorities who aver that the flowers, both in colour and size, are distinctly better when the Sweet Peas are raised indoors.

On the other hand, adherents and supporters of the method of raising Sweet Peas outdoors are very decided in their opinions. Some of our best growers affirm that from seeds sown outdoors in the autumn, the flowers partake of better colour and are larger, owing to the stronger character of growth of such plants. Generally speaking, however, much appears to depend upon circumstances. Soil, situation of the garden, early or late seasons, and a variety of other reasons, are responsible for the variableness of the results attained. We should rather be disposed to support the system of raising Sweet Peas under glass, provided the seedlings are not allowed to become drawn and weakly. By removing the young plants to the cold frames in good time, and by seeing that their requirements are met regularly each day, and subsequently planting them outdoors, when carefully and properly hardened off, in specially prepared quarters, we feel confident better results can be obtained than by sowing outdoors as advocated by others.

The best flowers are invariably evolved on plants of a robust character, and any method of culture by which such plants can be produced is the one that should be

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followed by those who desire to excel in growing high quality Sweet Peas. Plants with weakly haulm may occasionally develop a good spray of blossoms, but they are not consistently good as are those where the growth is strong and vigorous.

CHAPTER X

WHICH METHOD OF CULTURE PRODUCES THE EARLIER FLOWERS?

FROM close observation we have ascertained that an autumn sowing of Sweet Peas may be depended on to provide a display of blooms a week or two earlier than that obtained by other methods. Although the period of sowing in the autumn may vary to a considerable extent, the plants almost uniformly come into blossom from the middle to the end of the succeeding June. Of course there are instances where a few representative early varieties come into flower a week or so earlier than that mentioned above, but, as a general rule, we may safely anticipate our Sweet Peas being in full blossom by the latter part of June. This result may be obtained from a sowing made outdoors in the autumn. There are growers who make an autumn sowing in pots in frames, plunging the latter to their rims in ashes, cocoa-nut-fibre refuse, or any other equally suitable material, in this way affording protection to the roots in frosty weather and maintaining a fairly even condition of the soil throughout the trying winter season. Sweet Peas raised in pots in the autumn in the way we have suggested, give us some little advantage in point of time in coming into flower. The chief advantage accruing to pot culture at this period is that it enables a grower whose garden soil and situation preclude him from sowing outdoors in the autumn, to gain time,

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when the planting-out period arrives in the spring. He should have a sturdy batch of plants, nice and hard, and ready for planting outdoors much earlier than those raised in the spring, and this should ensure an earlier display as a consequence.

We may also point out what we have proved to be a fact, that plants resulting from sowings made indoors in January and February undoubtedly produce their flowers a week or two earlier than those plants raised a month later. Sowings made in pots in March have seldom flowered satisfactorily until the first or second week in July, except perhaps in a forward season. We are very much the victims of circumstances; for we have sown Sweet Peas one year in early March and have been unable to gather the resulting flowers until mid-July, and a year later we have sown at the corresponding period, and have gathered beautiful flowers, and plenty of them, in the later days of June and the earliest days of July. Our remarks are based on the experience of a normal season, and this is what growers look to for their guidance.

CHAPTER XI

HOW TO SOW SWEET PEAS

WE have considered the advantage, or otherwise, of sowing seed in the autumn and spring, and many other points relative to successful culture, and now in a few words we will express our opinion of the methods of seed-sowing now practised by successful growers. The seed of some varieties germinates much quicker than others, and there are well-known kinds that are lax in this respect.

It is our invariable rule when sowing Sweet Peas in pots, etc., under glass, to soak the seed beforehand. To carry this idea into effect, some growers will follow the practice of utilising a sufficient number of china egg-cups or tea-cups or any other equally useful utensils that will serve the purpose. We place our seeds in these for about a day, more or less, using ordinary cold water, and find this answers very well. A label is placed over or alongside each receptacle to avoid mistakes, and to locate the different kinds.

Some growers have a preference for soaking their seeds in fairly warm water; as much as 75 to 80 degrees Fahr. being quite safe in the care of thoughtful cultivators. Measures are taken to conserve the warmth of the water by various means. A good plan is that of placing a vessel of warm water over the hot-water pipes, and in this way maintaining the water at an even temperature. Others also make a practice of filing through the skin of the seed, as this assists a more speedy germination.

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Twenty-four hours in either cold or warm water will have a wonderful effect upon the seeds; they will swell visibly, and in the case of those placed in warm water, signs of germination will be apparent.

When actually sowing the seeds it is a good plan to sow those of a size together; there are always variations in the size of the swollen seeds. In this way the resulting plants are more likely to be of even size and their subsequent development better in consequence.

A suitable compost for raising Sweet Peas in pots should comprise three parts of good fibrous loam, one part each of thoroughly decayed horse manure and leaf mould, with sufficient coarse sand or clean road grit added to make the compost porous. Before using, see that these soils are well mixed and thus provide compost of a character that will maintain the young plants in health until the planting period is reached.

Both pots and crocks should be washed scrupulously clean, otherwise when the plants are turned out preparatory to planting, the roots may adhere to the sides of the pots, etc., and be torn and lacerated in consequence. Such a state of affairs must be avoided.

Crock the pots, etc., carefully, so that good drainage may be effected. A good concave piece should cover the hole in the bottom of each pot, and smaller pieces be placed carefully over this. A piece of turfy loam or some of the rougher soil should cover the crocks; the compost should then be filled to within an inch of the rim of the pot and made fairly firm. A portion of sifted soil should cover this, and the seeds be sown rather more than half an inch deep. If in five-inch or six-inch pots, five seeds sown equi-distant answers very well indeed. One or two seeds may also be sown in "thumb" pots or deep sixties (three-inch pots). Individual seeds give resulting seedlings that the grower may achieve

distinction with. Label, and water in with clear water from a fine-rosed can.

After being left for a time to drain, stand the pots on shelves or on the side-benches of the cool greenhouse, or in a cold frame where protection from frosts can be provided.

During the process of germination the temperature of the glass structure should be not less than forty degrees, nor more than fifty degrees at any time. A warmer temperature would have a most debilitating effect on the young plants, so for this reason careful ventilation of the glass structure should be afforded.

As soon as the young plants are two to three inches high, they should be placed in cold frames to keep them steady and to encourage a sturdy form of growth. When five to six inches high, at which time the first tendrils will be developing, insert small twiggy stakes for their support, and as more genial weather approaches, give air freely, and harden off previous to planting outdoors in mid-April.

When Sweet Peas are grown outdoors, the seed should be sown about three inches deep, in a trench of a shallow nature that has been carefully prepared. The soil should be made fairly firm and the sides of the trench should be treated in similar fashion. We sow two rows of seed in such trenches, disposing the seeds six inches apart on both sides of the row, taking care, however, to see that they alternate; in this way the most is made of available space.

Where still better results are desired, we sow the seeds six inches apart right through the middle of the rows. Wonderful results are obtained by these means.

The date of sowing is fully considered in another chapter, to which the reader's attention is directed.

CHAPTER XII

PROPAGATION OF SWEET PEAS BY CUTTINGS

THAT Sweet Peas could be propagated by cuttings was unknown a few years ago, and when this fact was made known many were ill disposed to give credence to the statement. It is a fact, however, and already advantage has been taken of the information and stocks increased by these means.

Where this method of propagation has been received with more than ordinary satisfaction, is in the establishments of those who find the purchase of novelties a rather expensive luxury. Trade growers, and those whose business it is to grow Sweet Peas for seed saving, have quickly turned this information to practical account.

For giving prominence to this phase of culture certain authorities who are much opposed to this method of increasing stocks, may be disposed to take strong exception. There are those who argue that the propagation of Sweet Peas by cuttings is going to weaken the constitution of different stocks and bring trouble on Sweet Pea growers in the not distant future. In careless and ignorant hands there may be something in this argument, but in the case of growers who know their business, we believe there is no cause whatever to fear. Sweet Pea novelties are now sold at high prices, relatively speaking, making it absolutely prohibitive for some persons to acquire a sufficient supply to meet the needs of their business. In such cases, by the purchase of a few packets of the choicer kind, growers

Day of California



PLANTS FROM WHICH CUTTINGS HAVE BEEN DETACHED, SHOWING GROWTHS
THAT HAVE RECENTLY DEVELOPED

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may begin quite early in the year to increase their stocks.

A sowing made under glass will very soon bring into being quite a number of plants; and if this be done in January, as the days begin to appreciably lengthen, propagation may commence in sufficient time to ensure the production of a large number of useful plants by the planting-out period in April.

Loam and leaf mould in equal parts, and this passed through a sieve with a half-inch mesh, will make a suitable compost. A sprinkling of coarse silver sand should be added, to assist the drainage of the soil and to keep it open. Some propagators prefer a much larger proportion of loam. Sow the seeds thinly in deep three-inch pots, maintaining the soil at all times in a nicely moist condition. A gentle bottom heat will suffice to assist the process of germination and this may be encouraged by making the propagating frame fairly air-tight. The glass covering or frame-light should be removed occasionally, to carry off superfluous moisture. As soon as the seedling plants are well through the soil, less close conditions of the propagating frames should be made to prevail in order to encourage a more sturdy form of growth. Cuttings may be detached from the plants when they are some six inches, or thereabouts, in height. The cuttings should be about three inches in length and the lower leaf trimmed off in each instance, preparatory to its insertion in soil similar to that mentioned above, to which should be added more silver sand. As each cutting is dibbled in, press the soil firmly at its base, as this is a most important factor in successful propagation. Water in with slightly tepid water from a fine-rosed can, and return to the propagating frame. Within a fortnight, more or less according to the bottom heat afforded, the cuttings will have rooted. They must then be gradually inured to less enervating conditions, and later on placed

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on the greenhouse bench. Subsequently, they should be transferred to larger pots, after which they may in turn provide a batch, or a series of batches of cuttings.

In time, quite a goodly stock of the variety will be ready for placing in the cold frame, to be carefully hardened off preparatory to being planted in their flowering quarters outdoors.

Providing every care be taken with the rooted cuttings, especially with regard to the hardening-off process, they should quickly regain their normal vigour, and be none the worse for the strain put upon them in their early history. We have seen very excellent results that have accrued from new Sweet Peas treated in this fashion, and do not hesitate to recommend the system, providing the plants are not coddled and are carefully hardened off.

CHAPTER XIII

AUTUMN AND SPRING SOWING

AUTUMN SOWING OUTDOORS

ALTHOUGH many of our best growers raise their plants under glass, it is astonishing what a number of Sweet Pea enthusiasts succeed in producing really magnificent blossoms from sowings made outdoors in the Spring. Quite a number of successful cultivators however would like to make a sowing outdoors in the autumn, but because of cold, uncharitable soil, and also of the location of their gardens, they are denied this privilege, which must also be considered a distinct advantage, especially for early display. Sweet Peas when sown outdoors effect a considerable economy in labour and time, nor are these the only advantages.

In some gardens it would be sheer folly to attempt an autumn sowing, and we would only recommend those whose garden soil is of light texture, or where there is a gravel or other equally warm subsoil, to attempt this early work. Heavy, retentive soils, with an equally heavy, cold, and uncongenial clayey subsoil, should deter those whose garden soil is thus described, from attempting to sow Sweet Peas outdoors in the autumn. We are quite aware that growers have succeeded in such circumstances, but to regard this practice in a general sense as applying to all, would be courting failure.

When to make an autumn sowing is a question that

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the reader naturally asks at this juncture, and in reply, we must answer the query in qualifying terms. A sowing made in mid-September invariably answers well, as it enables the grower to get his plants well established and hardened before the bad weather of late autumn or early winter sets in. There are some well-known growers who make a sowing in early October and also others who defer the sowing until late October and November, and success uniformly attends their efforts. In and around the neighbourhood of large towns, the practice of sowing Sweet Peas in the autumn should be discouraged, not on account of the soil but because of the deleterious effect of impure atmospheric conditions that prevail during the winter season. Sulphurous fogs and continuous damp and wet, and the state of soils associated with plant life carried on in confined or less open garden areas, tend to hinder, rather than promote, the well-being of the plants.

SPRING SOWING OUTDOORS

What is regarded by many as spring-sowing should really be described as a late winter sowing, for there are keen growers who desire to take advantage of special opportunities and who sow their Sweet Peas about the third week in January. The only reason we can attribute for this extraordinarily early work is that by the period above mentioned the days begin to lengthen, and do so appreciably in the succeeding month. Only in well-drained garden soil can a January sowing be made, and even then there are risks, especially in February, when the weather in the United Kingdom is often of the worst character and exceedingly trying to plant life, especially to plants growing outdoors. To be absolutely safe, growers should be guided by circumstances. Should the weather permit and the surface soil be in a nice friable condition after

the winter's frosts have done their beneficent work of breaking up and sweetening it, advantage may be taken of the first spell of favourable weather to make a sowing outdoors in February, giving preference to the latter half of the month for beginning operations. This advice needs to be qualified, however, by saying that only in specially warm and sheltered situations would we care to commence sowing thus early. In open, bleak and trying quarters, where the soil is also altogether too wet for an early sowing, we should defer sowing until a later period, when success is more likely to attend our efforts. Sowings made outdoors in February will, in a normal season, ensure the development of a free display of blossoms by late June or early July, thus giving growers, whose gardens are situated in favourable quarters, an advantage in point of time of no mean order.

From what we have observed for years past, the general consensus of opinion among growers is in favour of sowings made in early March. The first favourable opportunity should be taken in this month to make a sowing of Sweet Peas, with the object of producing a free display of blossoms throughout the summer months, from early July onwards. With very few exceptions Sweet Peas may be sown in March without any risk whatsoever. Growers whose gardens are situated in the coldest aspects, where the soil is about as cold and uncharitable as it is possible to be, will do well to defer their sowings until the first week in April. We make a sowing towards the end of April for providing a display of flowers of good quality in the late summer and early autumn, and find this has many advantages over the ordinary method of endeavouring to maintain Sweet Peas, that were raised earlier, in good form and condition until this period.

CHAPTER XIV

WHAT DISTANCE TO OBSERVE BETWEEN THE PLANTS OUTDOORS

THE last decade is responsible for numerous improvements in the cultivation of many flowers, and in no subject is this more clearly demonstrated than in the case of the Sweet Pea. In the nineties how many lovers of gardening dreamed of planting their Sweet Peas six inches to a foot apart? The process of enlightenment in this matter has been a very gradual one, and not until more recent years have leading growers allowed so much space between the plants.

It used to be the practice to draw drills and to sow the seeds more or less thickly in them. In course of time, as the culture of Sweet Peas began to assume a more important aspect, growers sowed the seeds less thickly, and at length, a few inches between the seeds or plants began to be recognised as the proper rule to observe. Whether or not it is that the present race of Sweet Peas is more vigorous than those of earlier periods, is difficult to say; but of one fact we are certain and this is, that plants require more room than was allocated to them formerly, but varieties differ considerably in the space they require. What astonishes us is the diversity of views that now prevails on the question of space to allow between the plants. No doubt some of the stronger growing varieties need much more space than those less vigorous in their character, and for this reason the grower

must determine for himself just what to do in the case of each variety that he may have to deal with, making careful observation each season.

There are well-known growers who are quite content to allow only three to four inches between the plants, and they claim that they obtain very excellent results. We can appreciate a close planting of the Sweet Peas such as this where a screen or hedge is desired to be brought speedily into effect, but for producing blooms of high quality we should hesitate to follow such advice. Beautiful results and healthy plant life invariably follow the planting of Sweet Peas six inches apart in the rows, or in clumps. A goodly number of enthusiastic cultivators also plant this subject eight inches apart, and good results invariably accrue from this treatment of the plants. The general practice with exhibitors, however, is to allow a space between the plants of from nine to twelve inches, giving plants of the stronger growing varieties, a space at least a foot between them, this varying, according to variety, to eighteen inches. It hardly seems credible that one plant of the Sweet Pea should require so much room, yet we have seen many individual plants of this description, where eighteen inches has not been too much space to allow between them. There seems to be no limit to the possibilities of plants of this subject when a system of high culture is followed. Plants are much easier to manage when well spread out, and good blooms invariably result from such treatment.

No matter whether the Sweet Peas be planted outdoors after being raised in heat, or whether they be sown outdoors, the same rules as to space apply. Whether they be grown in rows or in clumps it matters not; the distance apart should be the same in each instance. We can quite understand that some growers

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would hesitate to pull up all plants intervening between the spaces we have suggested, but as the ultimate results are so much better when this drastic system is followed, we are quite justified in recommending its application.



POT OF PLANTS AS SOLD BY THE FLORIST. THEY SHOULD BE BROKEN OUT, DIVIDED,
AND PLANTED EIGHT INCHES TO A FOOT APART

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CHAPTER XV

GROWING SWEET PEAS IN ROWS AND CLUMPS

THERE is considerable diversity of opinion regarding the question of sowing or planting Sweet Peas in rows or clumps. Both systems have their adherents and there is something to be said in favour of either or both. Among several questions put to some of the more notable growers of the Sweet Pea by the National Sweet Pea Society, as published in its excellent *Annual* for 1907, was the following:—‘Which do you prefer, row or clumps, for the production of exhibition flowers, and why?’

A very large proportion of those who expressed an opinion on this matter were in favour of planting or sowing in rows. From personal experience of both methods, the writer unhesitatingly supports the view of the majority.

WHAT ARE THE ADVANTAGES OF ROWS?

They are many. The plants are manipulated so much easier and controlled with less trouble. The work of planting is done quicker and more satisfactorily, and if there be but one line of plants in the rows and this in the centre of each row, the lateral growths can be taken to either side and thus ensure a more even distribution of the growths. Although it has been frequently argued that Sweet Peas planted in clumps obtain more light and air, we must confess that it is

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difficult to appreciate this statement. Plants set out in rows as above suggested cannot get overcrowded, and in consequence are better able to take advantage of both light and air. They are trained so much easier too. When the laterals are taken out to either side it is very simple to train them and keep them under control, and in the earlier work of staking this may be done with little or no trouble, and very expeditiously. Weeds will develop, we are all only too well aware, and when our Sweet Peas are planted in rows, the former may be kept under with comparative ease. When planted in clumps the weeds always seem to develop so quickly right in the centre of the clump, making their removal a matter of difficulty, owing to the risk of pulling up the plants at the same time. Then there is syringing to be done in the late afternoon of hot days, and by taking both sides of the rows in turn, we may have the satisfaction of knowing that the whole of the plants have derived the full benefit of this timely detail of culture. How very simple too is it to shade Sweet Peas when planted in rows! Tiffany or similar material may be strained from one end of the row to the other and secured to stakes and other supports speedily, and with very little trouble. In this way protection from the scorching rays of the sun may be provided, and if necessary the same material may be used as a screen in stormy and boisterous weather. This is quite a different matter when the plants are set out in clumps. What of the daily gathering of blossoms! When the plants are in rows, both sides of the rows may be taken in turn and the blooms picked more expeditiously and with little or no inconvenience, but this cannot be said of plants in clumps. Not the least important aspect of the question is that of economy of space. In gardens of a limited area, rows have many points of advantage over clumps, in that there is no waste of

space from start to finish. Rows can claim points either for beauty or picturesqueness. As screens or hedges they are charming in the garden, and where large flowers of high quality are wanted for exhibition we feel confident that better results may be obtained by these means.

WHAT IS CLAIMED IN FAVOUR OF CLUMPS?

Adherents of the culture of Sweet Peas in clumps claim that the plants secure more light and air by these means, but we fail to see this point. It must be admitted that light and air is the immediate environment of the clumps, but we have to remember that the dense mass of growth from Sweet Peas planted in this fashion make it a matter of impossibility for the laterals, etc., inside the clumps to obtain much advantage from what is going on outside. The tendency of the growths to get entwined necessitates constant supervision to keep the tendrils from their work of spoliation, which invariably results in the loss of many growths and flowers too. There are enthusiastic growers who claim that they can obtain twenty per cent. more flowers by this method, but we find it difficult to give credence to this statement. Less resistance to the wind is perhaps a point in favour of the clumps, but there is not much in it after all. Every grower of Sweet Peas knows that in stormy weather many flowers get blown about and damaged, but we fail to appreciate the argument that at least one side of the clumps can be relied on to produce good flowers as claimed by one zealot. Cannot the same be said of plants in rows, and with more force too? We are not aware that for practical purposes the system of growing in clumps has any real advantage over rows in any respect. There are Sweet Pea devotees who proclaim that clumps make a better decorative effect in

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the garden than do rows. We do not admit this, but we acknowledge that they have a beauty peculiarly their own, as also has this same subject in rows. They are both very pretty and both have their decorative value.

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A. J. Campbell

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CHAPTER XVI

PROTECTING THE SEEDLINGS FROM BIRDS

BIRDS are a constant source of trouble in the early part of the season, and the grower who would be successful must be prepared to protect his Sweet Peas by anticipating what will be required of him during the early history of the seedling plants. He may raise a batch of Sweet Peas in pots or by sowings made in the open, only to find that, soon after planting them in their permanent quarters, or at a period when the seedlings are young and tender, the depredations of birds have destroyed his rosy prospects of a short time before. The reader will readily understand the chagrin of the grower in such circumstances and be quick to appreciate the necessity of anticipating the attacks of birds upon the seedling plants by affording protection of one kind or another.

Considerable diversity of opinion prevails respecting this question of protecting seedling Sweet Peas in their early history. Quite a number of successful growers have never had any trouble in this respect, while the experiences of others have been quite the reverse. We believe that, in and around the neighbourhood of large towns, less trouble is experienced than is the case with those whose gardens are situated in the country. We have seen seedling Sweet Peas of promise rendered almost useless in country gardens by the attacks of birds, and where this is so, measures should be taken, and these quite early in the season, to protect the plants from their ravages. Those readers who are growers of this

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fragrant annual, and who are exempt from worry in this respect, are to be congratulated, and have good reason to be grateful for being immune. We know there are lovers of birds who are also lovers of the garden, who say that they feed the birds, in consequence of which they (the birds) leave the Sweet Peas alone. In small gardens this may be possible, but where this subject is grown in quantity we doubt whether the same method could be followed.

Where there is a scarcity of food for the birds they naturally pounce upon well-tilled quarters, that have been sown with Sweet Peas, or upon recently planted seedlings, which provide young growths that are tender and palatable. In a little while the soft, plump seeds that are germinating are extracted from the soil or the young plants rendered useless or seriously damaged by these attacks. This is the experience of the majority, and it is for them that we are pleased to call attention to various preventative measures that should be taken.

Before sowing the seeds outdoors it is a good plan to roll them in a paste made up of red lead and paraffin so that this substance adheres to the seeds, as this renders them distasteful, if not poisonous, to the birds. This is a simple, old-fashioned method of treating seeds of the Sweet Pea, which invariably answers, well as it renders both seeds and plants noxious to birds.

Protection for young plants may be afforded by staking them with short, twiggy sticks, arranging these so that they make it a matter of difficulty for the birds to get at the plants. Where expense is of little or no concern, galvanised pea-guards provide a more effectual protection that is invincible against the attacks of birds. Fish-netting may now be bought so cheaply that very considerable lengths, sufficient to cover many rows or clumps, may be purchased for a few shillings. If green, pliable stakes be arched well over the rows of

clumps, at intervals of a few feet, and the netting be pegged down to the ground at the sides, this will prove to be a most simple and effective protection until the plants are quite well advanced. Both the last-named protection and the galvanised pea-guards may be removed when all danger is past, and stored away in the dry for use another season.

The simplest and most inexpensive protection, however, is that of simply straining two or three rows of black thread or black cotton over the quarters sown or planted with Sweet Peas. We have occasionally heard of failure where this method of protection has been observed, but such a statement it is very hard to give credence to. Provided the thread or cotton be kept taut by the insertion of short stakes at regular intervals of about six feet, more or less, throughout the rows, and the lines be maintained at from four to six inches above the ground level, we have never experienced any trouble from the birds. Of course, if the lines are allowed to sag, and rest on the ground, the grower cannot, very well expect protection in such circumstances to be afforded. White cotton or thread is useless, and the practice of tying on strips of paper to the cotton, etc., to frighten the birds has no deterrent effect whatever. Some growers assert that they have never failed to bring their plants through such a period when they have strained black cotton or black thread two or three inches above the soil. Those who have a cool greenhouse may of course raise their choicer varieties under glass, and by subsequently placing them in the cold frame to harden off preparatory to planting outdoors, may raise a batch of plants of a hardy kind, that the birds are less likely to give their attention to. Scarce varieties and novelties we should hesitate to sow outdoors, and those raised in heat under glass we should not place in their permanent quarters outdoors, until they had been subjected to the

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preparatory hardening off above described. There are generous individuals who advocate sowing the seeds thickly, in this way anticipating the depredations of birds and satisfying the tax levied by them on those growers who are injudicious enough to ignore the bird's work of spoliation. Ultimately, the seedlings that are left, are thinned out to the required distance, viz , six, nine, twelve, fifteen or eighteen inches apart, according to requirements.



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'MRS. IRELAND'

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CHAPTER XVII

STAKING AND OTHER METHODS OF SUPPORTING THE GROWTHS

THE judgment of non-observant growers is that there is a considerable difference of opinion as to what are the best methods of supporting the vigorous growths of the Sweet Pea. But from careful inquiry among some of the best growers, supplemented by our own practical experience, there can be no doubt whatever as to which is the more popular and practical way of treating these plants when it becomes necessary to afford them support. Practical Sweet Pea growers are overwhelmingly in favour of the use of sticks for supporting their plants, and most of them give good reasons for their partiality in this respect.

New, not old sticks are essential. They may be of birch, elm, beech or hazel, but a decided preference should be given to the last mentioned, as they are cleaner, neater and more feathery, and also better in many particulars. In most country gardens, it is not difficult to procure the necessary hazel stakes, and these at a comparatively cheap rate. In suburban areas it is less easy, although where a limited number of bundles is required, the expense is not of much consequence. Where Sweet Peas are largely grown, however, the sticks become an item of considerable expense. For this reason no doubt some growers endeavour to economise by utilising other means of support for their plants.

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Opinions differ as to what the length of these stakes should be. Many growers are quite content with pea-sticks some eight feet in length, using strings fastened to taller stakes inserted at intervals in the rows and secured to uprights at each end of the rows, also by these means carrying the growths to a greater height. The more successful growers prefer hazel stakes some ten to fourteen feet in length, as this enables them to insert them securely in the ground and at the same time to ensure a free run at least nine to twelve feet more or less in length for the vigorous growths that always develop as a consequence of good culture.

To the inexperienced grower this may seem quite an unnecessary provision, but practice has proved that it is not so. We have seen Sweet Peas growing away freely at the end of September, that were then twelve to fourteen feet high, and carrying a wonderful crop of blossoms for so late in the season. Good culture, and persistent attention to details will accomplish wonders with the Sweet Pea. There is a danger, however, which many growers are prone to ignore, with respect to the too free use of the stakes. As a rule they are inserted too thickly. The sticks should be new and not trimmed. Growers, in ignorance, have removed some of the more twiggy pieces of the boughs, and in doing so have erred in no mean degree. When ordinary pea-sticks are used, the blooms may be gathered quite easily and there is no danger of the growths getting broken and damaged, as is the case so frequently in stormy weather, when strings, wires, etc., are used as supports. Some growers use pieces of old birch brooms for staking the plants in their early history, and others, who have a difficulty in procuring nice twiggy little stakes in the early spring for supporting the plants when they are five or six inches high, utilise some of the more suitable Michaelmas Daisy growths that are ideal for the purpose.

We invariably save the better seared growths of the Michaelmas Daisies for use in the spring. We wish for nothing better. A good collection of this autumn-flowering subject will provide a beautiful lot of small stakes that may be used either for plants in pots or for Sweet Peas growing in rows.

Some growers advocate the use of wire-netting with a four-inch or larger mesh. With such openings in the netting it is, of course, possible to control the growths fairly well, but where large blooms of high quality are desired, this system cannot be recommended. In gardens where it is proposed to make hedges of Sweet Peas, wire-netting has certain advantages, but in such cases the growers are usually satisfied with a free display of blossoms, independent altogether of the question of quality.

There is also another method of providing support for Sweet Peas where stakes are difficult to acquire. Stout uprights are inserted as supports at each end of the row, and similar uprights are also inserted here and there in each row, to which wire or stout string is securely fixed. There should be a space of about fifteen inches between the two uprights which determine the width of the row. The series of rows of wire or string affixed on both sides of the row should be about ten inches to a foot apart right throughout the row; by these means it is an easy matter to carry the growths several feet high. Having considered the respective merits of stakes and wire-netting, etc., and there being such a preponderance of opinion in favour of the first-mentioned system, let us see how best to insert the stakes.

In earlier days it was quite a common practice when staking either culinary or Sweet Peas, to insert the stakes in a slanting position at a given angle, arranging the stakes on the other side of the row in an opposite

direction. By sound practical gardeners, this was considered a sensible and good rule to follow, but in later days, growers of exhibition blooms somewhat taboo the system, as it tends to lessen the height of the sticks, which growers seldom find long enough for their purpose. Still, for rows of Sweet Peas in very open and exposed situations, this method of staking has advantages. The opposite adjustment of the stakes on either side of the row has the effect of locking them and making such a strong arrangement, that the most boisterous winds seldom succeed in shifting them.

For Sweet Peas in rows in less windy quarters or in nicely sheltered gardens, we prefer to insert the stakes in quite an upright position. The strain upon them is not so great, therefore they need no locking together in any way, to ensure their being maintained in this position. Assuming the plants were staked with small twiggy stakes when first planted out, the Sweet Peas will obtain all the support they need from this source until the growths are tall enough to attach themselves to the longer stakes just referred to. The upright position of the latter will ensure the growths making headway unhindered, as the branching character of the stakes will encourage a free course. Were the stakes turned inwards bringing the two lines forming the row to a point at their apex, the growths would quickly throttle one another and become a tangled mass. This would probably bring the display of blossoms to a premature conclusion, as growth from this point would be so very unsatisfactory, only a few of the strongest leaders making headway. For this reason, we would either insert the stakes in an upright position or adjust them in such a fashion that their branches are turned outwards. This treatment with long stakes, assuming all other details of culture be properly observed, ensures a long-continued period of flowering.

Much the same remarks may be applied to the staking of Sweet Peas, when grown in clumps. When the heads of the branching stakes are turned inwards the grower is most assuredly courting failure, but by inserting them so that they incline outwards, continuity of blossoming is largely assured.

Many growers place five or six plants in each clump of Sweet Peas, but they should not be transferred to their flowering quarters as a whole just as they are turned out of the five-inch or six-inch pots, as is so commonly practised. They are altogether too close when planted in this way.

Instead they should be planted a foot apart in a good circle, so that ample space may be left for a large feathery stake to be inserted between each plant, and that full justice may be done to the clump as a whole. It is astonishing what Sweet Peas will yield when treated in this fashion.

Make a rule to insert the large stakes at a period when the plants are making progress through the smaller stakes inserted in the first instance. In this way both light and air will contribute to the satisfactory condition of the plants.

CHAPTER XVIII

WHY BUDS FALL EARLY IN THE SEASON

COMPLAINTS regarding Sweet Pea buds falling, are rife in the early part of the flowering period, and many growers are at a loss to know the reason why this is so. They invariably begin to think it is due to faulty culture, and imagine that the fine display of bloom they have all along anticipated will never become an accomplished fact. Those who will take the trouble to look into their plants, and who will also make comparison with others grown in less highly cultivated conditions, may possibly find a reason for the buds falling.

Plants grown according to the system of high culture that is now the common practice in the garden of the enthusiast, develop an excess of vigour in the earlier part of the flowering period, such as is never seen in plants grown in ordinary garden soil. We may safely attribute to this excess of vigour the falling of the buds that gives so much cause for anxiety to the inexperienced grower.

Strongly grown Sweet Peas produce growths that are so full of sap, and so soft in the early part of the season, that the buds have an insufficient time to develop properly, in consequence of which they fall.

Later on when the growths are better ripened and also less vigorous, the functions of the plant are fulfilled in a perfectly natural manner, and blooms of good quality are the invariable result. This peculiarity is

not confined to plants grown outdoors, as Sweet Peas under glass develop the same weakness. It is not a disadvantage, however, as it would be necessary to remove these unduly early blossoms in the best interests of the plants, and for their future success.

CHAPTER XIX

WATERING AND FEEDING

WITH the advent of warm weather it may be necessary to have frequent recourse to the use of the water-pot. This does not follow, however, in all gardens. Soil differs so much in its character, that to lay down a hard and fast rule for all growers to observe would be quite a mistake. Ground that has been properly trenched will retain moisture better than those quarters less well treated. These are, therefore, points to remember when going into the question of watering.

Light, sandy soils are very thirsty, and take up an immense quantity of water in dry weather without, apparently, showing any result for its application. In the case of heavy retentive land, the condition of the surface soil is often most misleading, having the appearance of being very dry, when the condition of the soil immediately below the surface is just the reverse. To water Sweet Peas in such circumstances would be courting failure.

When the Sweet Peas are at their best, and this may be taken as a period covering the first three weeks in July, the plants are put to a severe test. At this period well-grown plants are literally covered with handsome blossoms, that are usually borne on long, stout, erect footstalks; to produce flowers of this fine quality continuously for weeks, a great strain is put upon the plants.

Great heat is an additional strain, and to maintain

the plants in a healthy condition during such experiences, must necessarily entail a great amount of work. Watering, feeding, the gathering of blossoms, and the tying and controlling of the growths, must have persistent attention, otherwise the plants will soon go back, and the display of good blooms be brought to a premature conclusion.

In periods of drought, watering must be done thoroughly, and at fairly regular intervals. We must admit a preference for copious applications of water, when we are satisfied the soil is dry. Growers, however, are apt to forget that, previous to the planting of their Sweet Peas, heavy dressings of manure were applied, and where the clump system of planting was followed, holes were taken out, and these filled, or two-thirds filled with good manure, that was well trodden in. This was also the rule with Sweet Peas planted in rows. Trenches were taken out and filled with manure in similar fashion to those prepared for Celery.

In this way, plants in clumps and rows have cool quarters for their roots to revel in in dry weather, where they are able to draw upon plant food and moisture quite freely. This manure forms a kind of reservoir of moisture in hot and trying periods, a fact that many growers forget, when they see the surface soil dry. Watering should be done in the late afternoon or evening; we prefer the latter time. This work is less laborious in the cool of the evening and the plants have then several hours in which to take up moisture and plant food, the better to fit them for the strain of the morrow. When Sweet Peas are watered in the morning of a hot day the beneficial effects are doubtful, as much of the moisture is quickly absorbed by the sun, and not seldom the plants look anything but happy.

Two or three copious applications of water each week, in the hot, dry summer weather, should suffice

if they be applied in the evening. Heavy feeding is not desirable, and in no case should it be started until the plants are almost through their first flush of blossoms. We deprecate the application of manure water to plants that are quite dry at the roots. Far better is it to apply clear water first, allowing this some little time to become absorbed before manure water is applied. Just a pinch of nitrate of soda, once a fortnight, near to each plant, and this, watered in, will act as a splendid stimulant. Soot water is a safe and an excellent plant food, and is an aid for getting colour. Sheep and cow manure, in liquid form, are both very good and safe fertilisers. Two or three applications each week will suffice, and on light soils they are especially valuable. Ichthemic Guano is one of the best plant foods we have used for Sweet Peas. It is a safe and reliable manure, and adds very materially to the colour of the flowers. We soak this guano in a bag for a day or two before using, by which time it is in a condition for the roots to assimilate the plant food very readily. Dissolve Ichthemic Guano at the rate of 1 lb. to thirty gallons of water. Clay's Fertiliser is another safe manure to use, and is especially valuable in promoting growth in the early summer. Sulphate of ammonia should be dissolved at the rate of a quarter of an ounce to a gallon of water, and in the case of nitrate of soda, half an ounce to a gallon of water answers well. The two last-mentioned stimulants need to be cautiously applied, and only when a much-needed fillip for the plants is required should they be brought into use. Nitrate of soda is very quick in action, and has a special value when the weather is very dry and growth is slow in consequence. An application of this stimulant will promote growth at once.

Soot water may be made by placing a peck of soot in a bag or sack, and soaking this in twenty gallons of water. Fowls' manure may be mixed in the same proportion,

and will prove a welcome change occasionally. Nitrate of potash and phosphate of potash may be applied about once a fortnight, dissolving one ounce of each in five to six gallons of water.

Watering overhead, or a good syringing occasionally, has a fine stimulating effect on the plants. This, like the watering, should be done in the cool of the evening, and the conclusion of a hot day should be chosen for this attention. By the aid of an "Abol" syringe with an inverted nozzle, it is quite a simple matter to diffuse a well-directed spray of water at any point of the plant. In this way the under side of the leaves may be treated to a good syringing, which would not be possible with an ordinary form of syringe.

CHAPTER XX

SHADING THE BLOSSOMS

IN the earlier days no one dreamed of shading the flowers from the scorching rays of the sun, the grower being quite content with the display the Sweet Peas made without any protection of an artificial kind.

With the advent of high culture, born as a consequence of the celebration of the bicentenary of the introduction of the Sweet Pea into England, when the great show at the Crystal Palace proved such a revelation to most growers, shading the blossoms has been adopted in the gardens of many of the leading growers. Many of the flowers possessing rich and deep tones of colour were found to be very susceptible to the influence of the sun, and to such an extent was this apparent that flowers growing in open and sunny situations had the appearance of being scalded or bleached and to such a degree as largely to spoil their decorative value. In succeeding years, as the range of colours extended, this scalding became a source of considerable anxiety, and to growers of exhibition Sweet Peas, a matter of much concern. The richer and deeper shades of colour as represented in Henry Eckford, Queen Alexandra, King Edward VII., Coccinia, Navy Blue, Helen Lewis, Evelyn Byatt, Black Knight, and several others, are among the more notable kinds that suffer from "scalding," and this, to say the least of it, is a great disfigurement of the blossoms.

There are growers who assert that they grow only sun-



A DISTINCT SWEET PEA, "HELEN PIERCE," VEINED AND MOTTLED BLUE ON A WHITE GROUND

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proof varieties ; to do this they must of necessity exclude many of the most striking flowers and narrow down their selections very considerably. With such a decision we have little or no sympathy. We think it is much better to overcome a difficulty such as the scalding of Sweet Pea blooms, rather than deny ourselves the joy of growing the brighter coloured flowers, which are more often the most attractive of the whole series.

Scalding may be prevented in a number of ways, and those who possess the will may very soon provide means of preventing this undesirable state of affairs by erecting a screen to protect the flowers during experiences of brilliant sunshine, in hot and trying weather.

The reader naturally asks, How can I prevent my Sweet Pea blossoms from scalding ? To this query we readily reply, By a variety of methods. In the first place we would suggest that he should take advantage of the shade afforded by tall trees, no matter whether they be your own or those of your neighbour. The friendly shade of tall trees is invaluable, and is a considerable saving in time and labour. Partial shade is all that is required, and the sun should then filter through the trees so that its power would be very much reduced thereby.

A better method, however, is to plant by themselves, varieties that suffer from scalding, so that they are the more easily controlled and may each receive similar treatment.

When the varieties that are susceptible in this respect are planted indiscriminately with the others, no matter whether it be in rows or in clumps, protection from the sun is less easily afforded, whereas, by grouping them together, they can all receive the same treatment. Having determined this matter what should be our next procedure ?

We should be disposed, were we growing Sweet Peas for exhibition, to adopt one of two methods, viz., either

erect a framework of battens placed a yard apart, on which a large roller, tiffany blind, or a series of smaller roller blinds may be drawn across or drawn back at will, or else strain a number of lengths of galvanised wire across the quarters, to which tiffany or other material may be affixed. Either of these methods are commendable, but we are disposed to support the latter one. Stout poles should be securely fixed at either end of the rows or series of clumps, and after being secured by a strut, the strained wires may be fixed in position. Stout hemp-twine or rope may be made to answer the same purpose, but these materials invariably sag when the air is dry in the daytime, and this is just when they are needed. They are taut enough at night and early morning and also in moist weather.

Tiffany is the best and cleanest material to use for shading purposes, and this should be of a somewhat stouter texture than is generally used for this purpose. When of too flimsy a nature, hardly sufficient protection is afforded against the scorching rays of the sun in the hottest weather. We find it is a good plan to sew a number of brass rings on the selvedge edge of the tiffany, equi-distant, observing a space between them of two to three feet. If when fixing the galvanised wire already alluded to, the wire rings be threaded thereon, the shading material may be drawn backwards and forwards at will and the shading of the flowers in this way become quite an easy matter. It will be necessary to secure the tiffany at each end of the row to keep this material taut. Tiffany should be thus fixed on wires, and adjusted on both sides of the rows or series of clumps, and that the Sweet Peas may obtain full advantage of the cooler conditions prevailing at night and preserve their natural character, growers would be well advised to draw back the shading material on each evening. Shading carried out between 8 A.M. and 6 P.M. generally suffices; this is

a good rule for growers to observe. Many growers also shade the tops of their plants but we have found that if the top wire on either side of the rows be adjusted near to the crown of the plant, adequate protection is in this way afforded.

Where only a few plants need protection, Archangel mats, scrim canvas, old curtains and newspapers, may be requisitioned, and these answer the purpose very well indeed. Should the tiffany be of a very flimsy kind it should be doubled for the purpose of shading.

Assuming the object the grower has in view is that of exhibiting Sweet Peas, it is well he should understand how long before the exhibition takes place it is necessary for him to commence shading the flowers. This is an important factor in successful culture, as it not desirable to shade the plants too long. In a normal season, about four days will suffice, although a day or two longer will not matter much, provided the tiffany be drawn back in the evenings and replaced before breakfast on the succeeding morning.

CHAPTER XXI

WHEN TO GATHER THE SWEET PEAS

How often one is asked the question, "when should I gather my Sweet Peas?" It cannot be denied that there is a period in the day when, if the flowers be gathered, they will last better and consequently can be represented better, either indoors or at the exhibition. Doubtless, most readers have their own opinions on this matter, having tested it for themselves. Still there are others who are seeking for information and who would be glad to follow the advice of those who have already satisfied themselves thereon. We have gathered our Sweet Peas in the early morning, also at noon and during the afternoon. An evening gathering has been made too, and as a final test we have made comparisons between morning gathered and evening gathered flowers, and have come to the conclusion that Sweet Peas gathered before eight o'clock in the morning give results that are far better than gatherings made at any other time. There are good reasons for this which it would be difficult for most persons to refute. Assuming the plants are watered pretty frequently during the blossoming period, we have to remember that the watering and feeding is usually done in the late afternoon or cool of the evening. In this way the Sweet Peas are enabled to take advantage of water and food supplies during the whole of the evening, night and early morning, and in hot dry weather, every reader knows what an immense benefit this is to both plants and

flowers. Growth is developing during the cooler period above-mentioned, in consequence of which our Sweet Peas should be larger and better in quality. The plants have been recuperating throughout the night so that in the cool of the morning their condition is distinctly fresher, and the flowers retain their freshness longer in consequence.

Those who gather the Sweet Peas are often exceedingly careless. Instead of gathering a few blossoms and placing them in water at once, they not infrequently gather quite a large bunch, during the compilation of which the flowers must necessarily suffer from the warmth of the hands of those who bunch them. We prefer to have in readiness a number of vases or other vessels of water into which each small gathering is placed straight away. In the case of those who intend to exhibit Sweet Peas it is important that the flowers be placed in water some hours before proceeding to the show. When the blossoms are kept out of water any length of time after being gathered, deterioration quickly takes place and the flowers can never give such a good account of themselves for this reason. It is possible to gather flowers of the Sweet Peas one morning for exhibition on the following day, provided cool, dry quarters with subdued light can be secured in which to place them. As a matter of fact where the flowers have to be taken some distance to the show, such as necessitates a long railway journey, the gathering must of course take place in the morning or evening of the preceding day. And even then we would give the morning gathered flowers the preference of our choice.

We should have mentioned earlier in this chapter that the Sweet Peas should not be packed when they are wet with rain or moist with heavy dew. Avoid crowding the sprays of blossoms in the vases. Give them plenty of room as by these means they keep better and certainly appreciate in size and general appearance.

CHAPTER XXII

HOW NEW SWEET PEAS ARE RAISED

OWING to the increasing popularity of the Sweet Pea it behoves all who are interested in promoting its culture to maintain the enthusiasm of its devotees, and to continue to whet their appetite with new and choice varieties each season.

Much has been done in recent years in improving the flower, and we are quite safe in saying, much more yet remains to be accomplished before growers will be satisfied that their ideal has been attained.

Fortunately for Sweet Pea growers, there are well-defined properties on which to base their judgment of blooms of new varieties. These are settled by the National Sweet Pea Society, and its definition of points of merits should receive the careful consideration of all who are interested in improving the flower.

The properties of the Sweet Pea are defined as follows :—

FORM.—The standards must be erect, waved or only slightly hooded. The standard wings and keel to be in such proportion to each other as will constitute a harmonious and well-balanced flower.

NUMBER OF BLOOMS ON A STEM.—No variety shall be recognised that has not at least three blooms on a stem, gracefully disposed.

COLOUR.—Distinct and clear self colours are most to be desired and, therefore, striped, watered, and edged



SWEET PEA "EVELYN HEMUS." WARM CREAM, WITH A PICOTEE EDGE OF PINK

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flowers will not be awarded certificates of merit, unless they present quite new and remarkable combinations.

EXCEPTIONS.—Perfectly distinct new colours, such as approaching the blue in *Salvia Patens*, the yellow in *Coreopsis grandiflora*, or the scarlet of the Zonal pelargonium, shall be recognised even if the variety shall fall short of the foregoing properties.

In the attainment of the above-mentioned standard of quality, lovers of the Sweet Pea, who are persons of leisure or, who have the inclination or desire to impose upon themselves the pleasant task of raising new and improved varieties, have had laid down for them excellent lines on which to work. It is a most fascinating occupation. Although the results are always uncertain, still a glorious new kind may be brought into existence by their own individual efforts, that may completely eclipse those already in cultivation.

The work of raising new Sweet Peas has completely altered in recent years. Formerly, in the Eckfordian type of the flower, one could set to work on certain lines with the sure prospect of effecting some change, but with the newer waved or Spencer types of the flower, the whole aspect of things has changed.

It is customary to effect the cross-fertilisation of the Sweet Pea by commencing operations as soon as the small buds can be handled. Unless they are dealt with at this very early period, the buds or blossoms quickly become self-fertilised, and the work of the raiser rendered null and void.

We have to remember that, if cross-fertilisation is to be satisfactorily accomplished, the male organs of the flower it is intended to fertilise must be dealt with before the pollen-sacs on the anthers burst. A careful observation of the organs of the Sweet Pea reveals the stamens united by their filaments into a kind of tube, the anthers remaining free, and the ovary running up this

tube' formed by the united filaments. The stigma, which is situated at the extremity of the pistil, is located just below the anthers. When the pollen sacs on the anthers are ripe they burst, the escaped pollen completely covering the stigma with its minute grains, in this way fertilising the flower. The pollen-bearing vessels ripen at a very early period in the history of each flower, and for this reason, the small buds—often when they are not more than half-an-inch in length—should be taken in hand very early. With the small blade of a sharp knife, the case in which the keel is enclosed should be slit up and the unripe anthers removed. All danger of self-fertilisation being by these means removed, we may proceed to make our cross, by taking pollen from the flower of one variety and transferring this to the stigma of the flower of another, from which the anthers have, of course, been removed.

This is a very simple method of cross-fertilisation which any one with a little application may readily effect. Some raisers after removing the anthers, as we have suggested, take the bud of another Sweet Pea that has burst its pollen-sacs, and after opening this with a knife, hook this on to the pistil of the first flower. The curved stigma should be slightly viscid when it is in a proper condition to be fertilised. Until the stigma is in the condition we have described, it would be unwise to proceed with this work. At this period it would not be necessary to wait very long however. Some raisers of new Sweet Peas transfer the pollen grains by the aid of a camel-hair brush. When the stigma is in a viscid state the pollen readily adheres.

Immediately subsequent to the cross being made, the fertilised flower should be covered with a tissue-paper bag or one made of muslin, to prevent insects interfering with our plans. Should there be any doubt of the cross

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being properly effected, it would be wise to apply pollen again, on two or three days in succession. We have little doubt, however, if the lines laid down herein be carefully observed, that, well-directed efforts in the first instance will prove effective. A card-label attached to a string should be secured to the stalk of each flower operated on, and this should give particulars of the cross for future reference. Many raisers record their work in this connection, in a book specially set apart for the purpose.

The advent of the Spencer and waved types of the Sweet Pea has completely upset former methods of cross-fertilisation. In the Eckfordian type the wings and the keel overlap, enclosing securely all the organs of the flower therein. In the Spencer type of the flower they are comparatively open: in fact, there are many instances in which the stigma protrudes from the shield long before the anthers are ripe. Because of this fact, it is difficult to effect cross-fertilisation; insects, winds, and other unexpected means may bring this about before it is possible to deal with the flowers, and this may account for the great variation in the results obtained with the Spencer and other waved types, in which the organs of the flower are exposed.

It is an open question, however. Complex indeed is this question; eminent growers, many of whom have given considerable attention to this matter, are widely diverse in their views. Each one is able to quote certain facts and authorities in his endeavour to substantiate his case, and between them there is considerable difference of opinion. Perhaps after all the opinions they hold do not matter much; what we want to know is, how to effect the cross-fertilisation of the different varieties satisfactorily, and further, how to perpetuate these newer types with greater certainty.

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Recent experiences have shown the necessity of definitely "fixing" the different stocks before they are distributed, and this, according to certain well-known authorities, takes two or three years to effect.

CHAPTER XXIII

METHODS OF EXHIBITING SWEET PEAS

THIS is a somewhat contentious subject in which ample opportunity is afforded cranks and faddists to air their views with doubtful advantage to the general public. That the remarks in the present instance may not be attributed to either of these extremists, we propose to consider the question of "methods," from a broad and comprehensive point of view.

On looking backward we have to admit that great strides have been made in recent years. The methods of setting up and staging Sweet Peas at Exhibitions have changed completely, and for this fact we are devoutly thankful. The National Sweet Pea Society can justly claim credit for having set a most excellent example to many of leading horticultural Societies throughout the United Kingdom, as well as to the numerous local societies in small towns and villages.

Most of us are familiar with the popular method of staging Sweet Peas that prevailed in days gone by when this fragrant annual was usually set up as a mixed bunch in a collection of hardy flowers or else in classes confined exclusively to annuals. Even at that period their beauty seldom failed to charm, but as the excellent work of the late Mr Henry Eckford began to bear fruit, and the list of named varieties lengthened, collections of Sweet Peas, in distinct varieties, were frequently exhibited at flower shows throughout the country, and a keener interest in these flowers

was created as a consequence. At first, as the new named varieties were distributed each succeeding spring; and the list began to assume quite interesting proportions, exhibits of six, twelve, or eighteen distinct varieties usually attracted considerable attention. In those days it was the custom to exhibit small, somewhat tightly tied bunches, in zinc tubes, arranged equi-distant on green painted boards. The latter were generally used at that time by Chrysanthemum and Dahlia Exhibitors and are still a relic of the past. In course of time, as the newer varieties eclipsed the older ones, growers conceived the idea of displaying the Sweet Peas to better advantage. The newer flowers were so much larger and the length and stoutness of the flower stalks so much greater that their adjustment in an artistic and effective manner came to be almost imperative. Hence it was that the bi-centenary celebration, at the Crystal Palace, disclosed methods of effective arrangement that have continued to improve ever since. The earthenware vases that were hired by exhibitors at that great exhibition, enabled growers to display the flowers in such a way that their real beauty could be seen at a glance. There were variations of staging at this show, however, some of which were commendable.

At each succeeding show of the National Sweet Pea Society, there has been manifested by exhibitors a keener preception of what is expected of them when setting up blooms of high quality. Some exhibitors are exceedingly careful in adjusting their blooms in the vases, and although quality of the flowers is of course the consideration of primary importance, it cannot be denied that a well-disposed vase of Sweet Peas seldom fails favourably to impress those who judge them.

Those who are familiar with the charming displays



VASE OF SWEET PEAS AS ARRANGED FOR EXHIBITION

to visit
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always got together on the occasion of the shows of the National Sweet Pea Society in the bright, well-lighted hall of the Royal Horticultural Society, Vincent Square, Westminster, S.W., know that certain leading exhibitors have their own peculiar methods of arranging the flowers. Consequently, although every exhibitor uses the same kind of vase, the inherent artistic taste of one, enables him to gain advantage over another who is not similarly blessed. The question is sometimes asked, in what way, or by what methods, can we improve the present system of exhibiting Sweet Peas?

The method of staging Sweet Peas in earthenware vases as at present observed is a very good one, but there is a uniformity in the show as a consequence of this hard and fast rule, that threatens to endanger its well-earned popularity. We all know what was said of the great Chrysanthemum Shows of the past, when by a strict rule, each exhibitor had to stage his blooms on green painted boards of certain dimensions. What was the result of this? Uniformity! And so uniform was the arrangement of the show as a whole, that visitors and others, after looking through a few of the more important exhibits, tired of them, or admitted that one class appeared to be a repetition of another, and so on. There appears to be just the same possibility with leading shows of the Sweet Peas. We hope, however, that our fears may prove to be unlikely of realisation, and that their popularity will continue to increase. The shows at Vincent Hall make quite a fairy land of the place, but this must not be attributed entirely to the method of showing Sweet Peas, but rather to the excellent planning of the exhibition by those who are responsible for its management.

Although many exhibits were disqualified a few years

ago, because the number of blooms arranged in each vase either exceeded or were less than the number stipulated in the schedule of prizes of the National Society, we are disposed to support the suggestion that it is better to fix a definite number as a limit, otherwise large growers may gain an undue advantage over their rivals who grow a lesser number. Twenty sprays is a sufficient limit as a maximum, as a beautiful display can be made with this number. There are growers who appear to think that any number between twenty and thirty sprays would be better, while others would like to see the number reduced to twelve. Twelve good sprays make a lovely exhibit, but we are disposed to think that eighteen or twenty sprays would be better. Good culture and better quality Sweet Peas are giving us sprays with much longer stems, and to show these advantageously more space is required. For the benefit of visitors to the shows, it would be more interesting were the number of blooms noted either on the name cards, or on the exhibitors' cards.

There appears to be a general consensus of opinion in favour of allowing more space to each vase of flowers as set up at the leading shows. When the competition is keen, the space allotted to each exhibitor is apt to be less than it ought to be, in which case undue crowding necessarily takes place, and an injustice is thereby done to exhibitors. Each vase of flowers should stand clear of its neighbour, and that each unit in a collection may be seen, and judged, satisfactorily to all concerned, we are disposed to think that the vases set up should be arranged in three tiers. The back row should be either twelve or fourteen inches high, the middle row six or seven inches high, and the front row on the table level. At the present time much is left to the ingenuity of the exhibitor, who may use blocks or vases to raise the middle or back rows, while others are quite content to

stand their vases equidistant on the flat table space allotted to them.

We think the practice of associating *Gypsophila* with the Sweet Pea flowers should be discouraged in all competitions where cultural skill is to be exemplified. The association of either the annual or perennial *Gypsophila* with the flowers of the Sweet Peas seems to detract from the value of the latter, and we think the effect is better without this so-called embellishment.

The same remarks apply with equal force to the use of asparagus and other foliage in association with high quality flowers. An effective arrangement can easily be made with the Sweet Peas alone, if pains be taken to dispose them deftly in the vases. Added foliage of another subject seems to be incongruous.

There are those who advocate staging the Sweet Peas in bamboo stands, but we have yet to be convinced that this is an advantage to the exhibitor or to the show as a whole. They have their uses, but we think in quite another way.

Again, referring to the setting up of the flowers in earthenware vases, we would rather see those of a green tone of colour used, than the brown vases more often met with. If it were not for the risk of breakage, we would prefer to follow the example set by Mr Henry Eckford, and stage our Sweet Peas in clear glasses. Sweet Peas arranged in stately and elegant glasses lend themselves so well for effective displays; the sparkling crystal of the water, and the bright and clean appearance of an exhibit thus brought into effect, always create a favourable impression. Why could not clear glasses of three different heights be used instead of the present earthenware vases?

While we must admit that it is difficult to suggest any new method of exhibiting, we think the character of some of the competitions might very well be altered.

The attempt by some exhibitors to make effective displays with the varieties they endeavour to represent at their best, suggests the formation of classes in which opportunities should be afforded for exhibitors to create the best contrasts, pleasing associations, or blends of colours, with, say, six, twelve, or eighteen varieties. We believe something of an educational nature might be done in this direction.

In closing our remarks under this heading, we would like to suggest that the tables or staging on which the vases are arranged might be lowered a few inches. Almost invariably persons of short or medium stature have difficulty in inspecting vases in the middle and back rows. A few inches less in the height of the tables would make a considerable difference to many interested visitors.

PREPARING FOR THE SHOWS

It should be the aim of all growers who are exhibitors, and those also who wish to grow flowers of the highest quality, to endeavour to time the blooms so that they come in together and are at their best on a certain specified date.

Sprays of large flowers, that are developed on long, stout, erect foot-stalks, should be striven after, and to effect this most desirable consummation, all blooms that show a disposition to come along too fast should be pinched out. The same attention should be paid to sprays that have evolved single and twin buds; thus diverting the energies of the plants to promising sprays that give evidence of evolving three and four blooms on each spray.

Undue crowding of the growths should also receive attention, as this undoubtedly hampers the satisfactory development of promising blooms. Weakly growths

for the same reason should be pinched out, as they will never serve any useful purpose.

Sweet Peas that are wet with dew or rain should not be gathered in this condition if it is possible to avoid doing this by waiting until a little later in the morning.

CHAPTER XXIV

CUT-BACK PLANTS

OBSERVANT growers may have noticed how, after their Sweet Peas have attained a certain height, they begin to give evidence of deterioration, and, soon after, a distinct falling off in the quality of the blooms becomes noticeable. This condition of the plants is more often seen when they are some six feet or rather more in height. What to do with the Sweet Peas in these circumstances is a matter of some concern, especially to the inexperienced grower, who naturally desires to maintain his plants in good form and condition as long as possible. Unless the plants be very strong, it will be advisable to use the knife and cut back the growths in somewhat drastic fashion.

Plants in the condition above referred to continue to grow away rather freely, but more especially the leading shoots. These, however, are disposed to get unduly woody, although their flowers show a great falling off in quality notwithstanding. Lateral growths also exhibit the same tendency, and no matter how much attention the grower may devote to his plants in respect to watering and feeding, etc., there appears to be little or no improvement in return.

In these circumstances, there is only one thing to do, and that is to cut away the growths to a point in the old stem where the laterals are breaking away freely. We would not cut back the old growths to a point less than three feet from the ground. The result of this treat-



Photo. by

"MRS. C. FOSTER"

A. J. Campbell

THE NEW ALPHABET

ment will be seen in a little while, the lateral growths quickly taking up nutriment that was formerly absorbed by the over-strong, woody leaders, in consequence of which a new lease of life will be taken by the plant. We would also cut out all unduly crowded growths as well as weakly laterals, which would never be of much service.

What is most desirable at this period is to promote fresh growth that will yield a new supply of welcome blossoms in the not-distant future. This may be encouraged by the judicious use of stimulants; nitrate of soda is a very valuable stimulant at this period, and if this be applied at the rate of an ounce to a yard run in the rows, and be applied before rain, or be watered in, the effect will very quickly be apparent.

We can quite understand a nervous amateur grower hesitating to deal with his plants in the manner we have suggested, but he need have no fear of the consequences, as the results are almost certain to exceed his expectations.

CHAPTER XXV

THE USE OF THE SWEET PEA IN TABLE DECORATIONS

OF the numerous beautiful flowers used in table decorations throughout the country, we question whether there is any subject that exceeds the beauty and usefulness of the Sweet Pea as we know it to-day.

The Sweet Pea has always been a popular subject to use in this connection, but now that the flowers have been so much improved, and their colours are so charmingly diversified, the blooms are more popular at the present period than they have ever been before in the history of the flower. In endeavouring to find a reason for their popularity in this respect, several thoughts are suggested to us why the Sweet Peas are so frequently met with in table decorations. Grown to such perfection as they are to-day, the blossoms being borne on long, stiff flower-stems, their disposition, in the various utensils requisitioned for the many forms of table decoration that now find favour, becomes a matter of comparative ease. The individual flowers too are so large and beautiful that, combined with stout, erect flower-stalks, their artistic arrangement—assuming the colours are properly associated—may be effected quite easily. Quite the most interesting aspect of Sweet Peas in table decorations is the beautiful variation of both form and colour that may be represented on the dinner-table in the course of a week. It is quite unnecessary to use the blossoms more than

once or twice, as the plants yield such a wonderful display each day that constant change may be very easily effected and the decorations made more fascinating in consequence. It is the practice, in some gardens, to grow a sufficient number of varieties of certain specified colours and forms, that blossoms of a kind to suit the occasion may be gathered each day as required. This is a very excellent rule to follow, and ensures a pleasing variation from time to time, right throughout the flowering season. Unless some such rule be observed, it is just possible there may be a monotonous continuation of some kinds or colours, that, however excellent or beautiful they may be, must, if repeated too often, lose their charm to some extent. Those who desire to excel in this department of decorative work, would be well advised to make a special study of the colours and peculiarities of the better varieties that are now in general cultivation. This may appear to be quite superfluous advice, but, in fact, it is not so. The floral decorator who wishes to excel in the art, should always be on the lookout for good and distinct kinds, the flowers of which should possess some distinguishing characteristic. In this connection we may mention the question of colour, and how this varies! Good, self-coloured flowers, or those kinds that are apparently self-coloured, are useful in certain circumstances, but if they be of too striking a colour, they may be quite difficult to use by themselves or in association with other colours. Novelty in colour should always be sought after, providing it is a really pleasing one, and for this reason we welcome a bicolor, such as Jeannie Gordon, or the more recent acquisition Evelyn Hemus, the lovely high quality flower with a buff ground and picotee edging of rose. Constance Oliver is another flower of novel colour, its delicate pink blossoms suffused with cream providing dainty

decorative material of the very best kind. In succeeding years it is quite possible that Sweet Peas of these more refined and pleasing tones of colour will be more often used in table decorations than is the case at the present time. They will form a pleasant break in the self-coloured table decorations that it has been the practice of table decorators to arrange in the past. We welcome such an innovation most heartily, and hope that raisers will give some attention to the creation of Sweet Peas of even more novel colours than they have yet given us.

COLOURS FOR ARTIFICIAL LIGHT

Some attention needs to be given to the question of colours especially suitable for artificial light: there appears to be considerable ignorance in regard to this matter. The Sweet Peas in the summer exhibitions are surely intended to teach us something respecting the question of colour association when used in table decoration, but, alas, this is seldom exemplified in what we see in the various competitions that are provided at both local and larger shows. A dinner-table decoration is surely intended for an evening display, when artificial light is invariably used. Flowers of a colour that may look very beautiful in the day-time, may be quite unsuited for displays under artificial light, and for this reason considerable discrimination is necessary when determining what the colour of the Sweet Peas shall be for evening use. How frequently table decorations of Sweet Pea Lady Grisel Hamilton, and others of a somewhat similar colour, are met with at the shows. Sweet Peas of this colour are anything but pleasing under artificial light, and we are at a loss to understand why such unsuitable material is used. Lavender, mauve, and kindred tones of colour, have a most sickly

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and unpleasing effect at night, and much of the colour is also lost by gaslight, etc. Contrasts with the aforementioned colours are not seldom created by using white or primrose- (cream) coloured Sweet Peas in association with them, and this only seems to add to the trouble. It is to the warm colours that we should look for our decorative material for dinner-table decoration at night. In almost every instance these tables of warm colours present a bright and vivid appearance in the daylight, when they are required, but to see them effectively displayed, is to wait until either gas or electric light is turned on, when the warm and glowing colours are most striking and invigorating.

We would give preference to pleasing harmonies of colour, unless a table decoration of one colour be desired. Charming floral pictures may be created by using two or three or more tones of one colour in association. For instance, of the many tones of pink, how easy it is to use three or four of them in proper sequence, and what is prettier? The bicolors and edged kinds are sweet in themselves or when used in conjunction with one another, or rose and carmine, blush and pink, and other colours nearly akin will always create a pretty decoration. In the case of contrasts, it is far less easy to bring into effect a picture of a pleasing kind. Violent contrasts we would eschew. Seldom are they really pretty. We rarely meet with a contrast in Sweet Peas where the proper proportion of the respective colours is used. Those responsible for arranging the decoration often use an equal quantity of both colours when two varieties are used. From experience and careful observation, we have noticed that in the more striking contrast, such as scarlet and cream, the number of cream-coloured Sweet Peas should be much less than those of the richer colour, and vice versa, whatever may be the effect desired, and so on all through the different colours. This is a very simple

rule to follow, and is one that invariably gives good results. The somewhat despised magenta colour stands out very well under artificial light, and we have seen excellent results, especially where a change has been desired, from the use of Sweet Peas of this colour. Some of the rose-coloured flowers are superb at night, especially any tones of colour approaching that of old rose. Blues, lavender, mauve, violet, and any Sweet Peas in which these colours are represented, we would never use for evening displays under artificial light.

All the Sweet Peas are suited for displays made in the daylight, none of them being amiss.

RECEPTACLES FOR THE FLOWERS

Methods of arranging flowers on the dinner-table have changed from time to time. In earlier days it was the custom to adjust the Sweet Peas in large epergnes of various forms, and mostly made of glass. Some were useful and of elegant fashion, whilst others were most inappropriate; in fact, many of them were distinctly ugly and of very little use. To add to their unsuitability for this purpose, they were often made of glass of ruby, blue, and other colours, and these often clashed with the colours of the flowers.

In recent years there has sprung up a demand for certain forms of rustic metal ware, made in both bronze and silvered kinds. The dull shade of the first-mentioned ware has rather detracted from the value of these stands, as they have the effect of giving the floral arrangements a somewhat dull and heavy appearance. In the case of silvered ware the effect is bright and pleasing, and we have nothing but praise for it. The forms of these stands are very diverse. There are epergnes of various shapes, tall and short, arches, trees, gates, styles, bowls, and numerous handy little receptacles

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that a child can arrange with the greatest facility, and with lightness, for effect. The taller stands—usually three—are, of course, arranged on the centre of the table, with four small pieces, one at each corner, and sometimes an additional one on either side of the central epergne. Two or three flowers in each of the metal tubes suffice to make a really attractive display. At the National Sweet Pea Shows these stands are used by the majority of the exhibitors, and a very charming effect is created by their use. They have this great advantage, that they are practically unbreakable. They can also be re-silvered from time to time as they get dowdy. Unfortunately, the tubes hold very little water, in consequence of which they need to be refilled each day, if the flowers are to be maintained in a fresh condition.

While we appreciate the undoubted value of these rustic stands, we would prefer to see some variations from those at present in use. They are a great advance on the older glass epergnes, etc., but so few of the present-day exhibitors succeed in covering up the metal tubes, which detract from an otherwise artistic effect, and there is also an abruptness in the arrangement of the flowers near the base. We cannot get the flowers down low enough.

Another change is now in course of development. The tall epergnes are less popular than they used to be, because they are so dressed that a person on one side of the dining-table could not see his friend *vis-à-vis* without craning his neck, to his near neighbour's inconvenience. From personal observation, the lower dressing of the stands seems to be now finding favour, and it is easy to understand the reason for this, because conversation may be carried on across the table without the floral decorations inconveniently obtruding. Bowls for the centre and ends of the table, using a large one for the centre and two smaller ones of equal size for the ends, with

just four small glasses at the corners, or else disposed here and there on the table for completing an effect to suit the taste of each individual table decorator, are now in more frequent use. Wire or glass arrangements for assisting the arrangement of the flowers in bowls may be purchased cheaply, and will last for years. Very beautiful decorations for the dinner-table may be created by these means, and we hope this, or other equally sensible methods of arrangement will henceforth prevail.

Clear glass is much to be preferred to anything else. The crystal of the water adds to the attractiveness of the picture, and if the arrangement be bright and airy, clean water in clear glass receptacles adds to the daintiness of the display.

Sweet Peas may be arranged most effectively without the aid of foliage of a foreign nature. A few pieces of Sweet Pea foliage or haulm, with the tendrils well developed, is the natural accompaniment of the flowers. We have used, in association with Sweet Peas, warm-tinted sprays of the hornbeam, than which there is nothing more effective. Elegant plumes of some of our wild grasses are also very handsome when not used too freely. These should not be shortened, but be arranged so that they stand out quite naturally from the base of the stand, made up with the blossoms of the Sweet Peas. The judicious use of a spray or two of *Asparagus plumosus*, and this of the palest shade of green, will further enhance the picture if disposed with proper regard for an artistic finish.

On no account shorten the stems of the Sweet Peas. We have seen the picture spoiled by ignorance in this particular. The stateliness of the floral picture may be brought into effect by using flowers with long stems. Unduly long stems, of course, are not needed, but it is imperative to retain stems of sufficient length to represent

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the Sweet Pea in a perfectly natural manner; when the flower-stems are shortened this is not possible.

The flowers should always be perfectly fresh. Stale flowers, and those that have lost their colour, should be tabooed. In the Summer season the Sweet Peas are not by any means scarce, so that there should be no excuse for using indifferent material for decorative purposes. The flowers should always be in water, and those who fail to recognise this essential fact in competitions, should suffer in consequence. We have no sympathy with the practice of placing individual sprays of blossoms, here and there, on the table cloth, as they serve no useful purpose, and seldom add to the attractiveness of a pretty table decoration. Neither have we any liking for the use of millinery or table-centre cloths, the colour of which is all too frequently unsuitable. The Sweet Peas themselves are quite capable of making a beautiful dinner-table decoration without the aid of chiffon, etc.; and a real artistic creation is better brought into effect without such means.

CHAPTER XXVI

SWEET PEAS IN OTHER DECORATIONS

THE decorative purposes of the Sweet Peas are not confined to the exhibits of dinner-table decorations. Their uses are many and varied. Their improved character is largely responsible for the more numerous uses to which these dainty blossoms may now be applied. Not a season passes without our discovering some new method of dealing with the flowers in the work of the floral artist. Although we acknowledge this truth, we must confess that we have little sympathy with the practice of shortening the flower-stalks and using the sprays of blossoms for making a mass of colour in the floral designs that so many professional decorators are prone to use. The natural grace and beauty of the Sweet Pea blossoms are almost entirely destroyed by these means, so much so, in fact, that we fail to trace any real artistic worth in this method of employing the flowers.

In making the groundwork of such designs as that of a harp, cushion, cross, wreath, scroll, chaplet, crown, and other creations of a similar nature, the flower-stalks are shortened back very considerably by the professional floral artist. The sprays of blossoms, as a rule, are wired and inserted in the moss that covers the design, flower to flower, or rather, spray to spray, so as to form a dense, compact mass of one colour. Surely, the professional florist, and those who seek to emulate his methods, could find some other better and less wasteful method of arranging the Sweet Peas in designs of the

kind above described. We have seen charming designs brought into being by observing a more sensible method of adjusting the flowers, in which their natural grace and beauty has been beautifully illustrated.

In the decorations of our homes the Sweet Peas should always play an important part. There are so many devices and receptacles in which their true decorative beauty may be practically demonstrated, and every room in the home would be brightened and improved by the inclusion therein of a vase or two of these flowers.

We frequently requisition a number of small, clear glasses, each with a good base and with a rather narrow straight neck and small aperture. The upright neck of these small glasses enables the decorator to adjust the blossoms in pleasing poise, so that only a few flowers are needed to make a pretty display, and crowding by these means is avoided. Such receptacles may be disposed in numerous ways throughout the dwelling-rooms to distinct advantage. When vases or glasses with wide openings are utilised, and these with necks shaped to various extreme angles, it is almost impossible to make a light and dainty display, as so many flowers have to be used to give a proper finish.

For bold and effective displays, some of the smaller trumpet vases should be used. Those ten inches to a foot in height will make a pretty decoration, and if the opening be covered with brass wire netting of a rather small mesh, the actual task of arranging the Sweet Peas is rendered extremely simple and easy. Bowls that are not over-large are very pretty for sideboard decorations, or for placing on the small occasional tables of the drawing-room. What is prettier than a bowl of Sweet Peas set up in the ample recess of a latticed window? In fact, their uses appear to be endless. Their arrangement, however, needs to be carefully done if the best

effect is to be obtained. When the bowl is large, it is so easy to overdo the arrangement of the flowers.

With Sweet Peas on long stems—and twelve inches may be considered a very moderate length now a days—it should be quite an easy matter to arrange a bowl of Sweet Peas that will make a display fully eighteen inches in diameter, and what a handsome picture this should be! Large bowls must have wire supports or some other contrivance placed therein, if lightness in the disposition of the flowers is to be brought into effect. There is always a tendency to use too many flowers, in consequence of which a heavy and inartistic effect is created. In some of the smaller bowls, green moss placed therein will enable the decorator to adjust the Sweet Peas in position very quickly, and a prettier picture be brought into being as a consequence. Small silver vases and bowls, in which are invariably placed blue or other coloured glasses to hold water, are especially dainty when treated in the manner we have just described; their uses are many.

Hand-baskets for drawing-room decoration, fireplaces, and for exhibition, are always interesting floral pictures. In competitions it is essential that the handle be available, and that the basket itself be light. Many prizes have been lost because the exhibitor has filled his basket with sand or some other heavy substance. The simplest arrangement known to ourselves is that of filling the basket with nice, fresh green moss, and inserting therein a sufficient number of green-painted tubes, or rather cones, each of which will hold a supply of water to keep the flowers fresh. The pointed end of the cones may be easily adjusted in the moss, and if they be arranged in varying heights, the disposition of the Sweet Peas in them artistically becomes a matter of comparative ease.

Sweet Pea haulm may be affixed to the handle, the former, of course, being placed in the cones of water to



Photo. by

"THE KING"

A. J. Campbell

keep it fresh. Asparagus of a pale-green shade may also be used most effectively, and for a pretty finish we know of nothing better. We should hesitate to use sprays of maidenhair and other ferns.

Bouquets, sprays for ladies, button-holes, etc. etc., composed exclusively of Sweet Peas are very sweet and pretty. Anything of too formal a character, however, should be avoided. An easy, graceful, and light disposition of the flowers should be striven after, and this is not difficult to accomplish. Decorations of Sweet Peas are so often rotund in their finish, suggesting the idea that some one had been over them with the shears as a finale. This is not art! What was said regarding colour association in the chapter devoted to dinner-table decorations, applies equally well in the present instance. It is also well to remember that, in adjusting the sprays of blossoms in position, not one should be used unless it has a mission to fulfil. It should, so to say, speak for itself. To place any flower in a receptacle just for the sake of filling it, and without a special reason for doing so, is altogether wrong.

CHAPTER XXVII

CLASSIFICATION OF THE BEST VARIETIES IN THEIR RESPECTIVE COLOURS

THIS is another of the annual blessings that are conferred on Sweet Pea growers by the Floral Committee of the National Sweet Pea Society.

A careful observation of the methods adopted by the Committee in determining which are the best varieties in their respective colours, reveals the fact that a great amount of work is done by a goodly number of experts before the recommendation is actually carried into effect.

In 1907, for instance, no less than sixty sets of papers were returned by those asked to tender their advice, and judging from the comments in the "Annual," this is only a small proportion of the large number of lists issued. It is a sufficient number, however, for any reader desiring reliable information. Such a consensus of opinion should be absolutely trustworthy, and we are disposed to accept the information with grateful thanks. There were numerous instances where varieties received between fifty and sixty votes—56, 57, and 58 being recorded in some instances. The Committee recommend two varieties in a few instances, evidently because the votes recorded in favour of those jointly mentioned were very much the same. For instance, in 1907, in the white varieties, Dorothy Eckford received 57 votes and Nora Unwin 56 votes. Again, in the crimson and scarlet section, King Edward VII. received 58 and Queen Alexandra 56 votes. The orange colours were also

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noteworthy in this respect, Helen Lewis gaining 55 and Henry Eckford 51 votes. The lavender kinds too were very close, Lady Grizel Hamilton securing 53 votes and Frank Dolby being only one vote behind with 52. In the same year there were no less than seven varieties voted upon in the pink section, five in the lavender, and four and three in several other instances. Readers will see, therefore, how useful this information is to practical growers.

The list recommended by the Floral Committee, which was published in the Autumn of 1908, is as follows:—

White—Dorothy Eckford, Etta Dyke, and Nora Unwin.

Crimson and Scarlet—King Edward and Queen Alexandra.

Rose and Carmine—John Ingman.

Yellow and Buff—James Grieve and Paradise Ivory.

Blue—Lord Nelson and A. J. Cook.

Blush—Mrs Hardcastle Sykes.

Cerise—Chrissie Unwin.

Pink—Countess Spencer and Constance Oliver.

Orange Shades—Helen Lewis and St George.

Lavender—Lady Grizel Hamilton and Frank Dolby.

Violet and Purple—Rosie Adams.

Magenta—Menie Christie.

Picotée edged—Evelyn Hemus.

Fancy—Sybil Eckford.

Mauve—Mrs Walter Wright and The Marquis.

Maroon and Bronze—Black Knight and Hannah Dale.

Striped and Flaked (Red and Rose)—Jessie Cuthbertson, Paradise, and Red Flake.

Striped and Flaked (Purple and Blue)—Prince Olaf.

Bicolor—Jeannie Gordon.

Marbled—Helen Pierce.

Here, again, we have to record a considerable difference between the lists of 1907 and 1908. There are no less than fourteen alterations and additions between the two years. This points to the fact that a great change has taken place in the popularity of old and esteemed favourites, as several once-popular varieties have had to give place to newer and better flowers. Such a state of affairs is inevitable when so much is being done to improve this flower.



"WHITE SPENCER," A CHASTE AND BEAUTIFUL WHITE WAVED SWEET PEA

CHAPTER XXVIII

TOO-MUCH-ALIKE VARIETIES

THE National Sweet Pea Society has for some time past published a bracketed list annually of varieties that are regarded as too-much-alike. The list is increasing at a rather alarming rate, if we make a comparison between the lists of 1907 and 1908. In the former year the total number of varieties under this heading numbered fifty-two, but in the latter year there were no less than seventy-seven varieties—an increase of about fifty per cent.

Such a compilation cannot be too highly valued by exhibitors and others, as a reference to the list will save the pockets of purchasers of seed, and what is of more importance, growers will be in a position to avoid growing a number of unnecessary varieties, that would probably have been cultivated but for the publication of this and subsequent annual lists.

The "National" stipulate that "not more than one of the bracketed varieties shall be shown on the same stand at any exhibition of the National Sweet Pea Society." This should be conclusive proof of the similarity of one variety to that of another, in those bracketed together by the Floral Committee.

A reference to the bracketed list reveals the fact that there are several instances of three sorts being too-much-alike, two cases of four varieties, one of six, two of seven, and one of no less than nine varieties being bracketed together. It is wise of the Committee to call

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attention to the fact that "priority is given to the first named." This suggests that should there be an advantage in any of these thus bracketed together, the name first mentioned should be regarded as the best variety of the series. The under-mentioned is the list issued in the Autumn of 1908 :—

(Etta Dyke. White Spencer. Paradise White.)	(Captain of the Blues. Bolton's Blue.)
(Queen Alexandra. Scarlet Gem.)	(Lady Grizel Hamilton. Countess of Radnor. New Countess. Princess May.)
(Her Majesty. Splendour.)	(Flora Norton. Miss Philbrick.)
(Duke of Sutherland. Monarch.)	(Modesty. Duchess of Sutherland.)
(Lottie Eckford. Maid of Honour. Ivy Miller.)	(Sensation. Countess of Aberdeen.)
(Black Knight. Stanley. Boreatton.)	(Zoe. Mid-Blue.)
(Lord Rosebery. Cyril Breadmore.)	(John Ingam. Paradise Carmine. Spencer Carmine. George Herbert. E. J. Castle. Rosy Morn. Rosie Sydenham. Mrs W. King. Phyllis Unwin.)
(James Grieve. Mrs Collier. Mrs Felton. Dora Cowper. Devonshire Cream. Ceres. Yellow Dorothy Eckford.)	

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(Dora Breadmore.
Miss Bostock.)

(Countess of Lathom.
Coral Gem.)

(Clara Curtis.
Primrose Spencer.

(Marbled Blue.
Hester.)

(Evelyn Hemus.
Mrs C. W. Breadmore.)

(Mrs Henry Bell.
Sutton's Queen.

(Countess Spencer.
Paradise.

Kitty Lea.
Romani Ronni.)

Enchantress.

Pride of St Albans.

Olive Bolton.

Codsall Rose.)

(Mrs Hardcastle Sykes.

Princess Victoria.

Pink Gem.

Florence Morse Spencer.

(Gorgeous.

Miss B. Whiley.

Mildred Ward.)

Vera Jeffrey.

Bobby K.

Lorna Doone.)

CHAPTER XXIX

SOME OF THE PESTS AND DISEASES OF THE SWEET PEA

THE Sweet Pea is not more immune from pests and diseases than other hardy flowering plants. Diseases that may have been quite common to this subject in earlier days, were probably less noticeable owing to the fact that comparatively little interest was taken in the flower. With the advent of increased interest however, and culture of a higher order, the susceptibility of the Sweet Pea to the attacks of pests and diseases has been more noticeable. To check the spread of diseases that threaten either to mar the beauty of the flower or devastate stocks, persistent efforts should be made to eradicate them before they gain the upper hand. In the case of pests, remedies must be rigorously applied, otherwise growers may have to deplore the loss of, or damage to, promising plants.

That there may be troubles ahead no one would dare to deny, but with the possession of the necessary knowledge of what to do in each individual instance, we may be able to free our plants from such troubles, and ourselves from anxiety, in that respect.

We will, therefore, proceed to deal with the more notable diseases and pests, in the hope that readers may profit by the advice given.

SWEET PEA MILDEW (*Erysiphe polygoni*).—Much damage is done to the plants by this fungoid disease in hot dry seasons. The mildew quickly spreads over the

leaves and the blooms so that in a little while the whole plant is involved. Simple remedies immediately the disease is apparent are a dusting with soot, or with a mixture made up of four parts of sulphur to one of the dust of quicklime. We prefer, however, to spray the plants with a solution made up of three ounces of soft soap and one ounce of sulphide of potassium (liver of sulphur) in two and a half gallons of water, dissolving these ingredients in warm water. The spraying should take place immediately the mildew is first seen. We would repeat the spraying at intervals of a fortnight throughout the season, and would, at the conclusion of the flowering, burn the haulm and stakes. Badly infested plants should be pulled and burned. In this way the perpetuation of this trouble may be avoided.

SWEET PEA SPOT (*Ascochyta pisi*).—This is another disease that is a source of trouble at times. The disease is generally noticeable on the pods, although it is sometimes apparent on the leaves and stems of the plants. At first the irregular spots are of a pale green colour, ultimately becoming almost white, with a dark bordering line. The effect of this disease is seen in pods that become drawn and irregular in form with their contortions.

Apply sulphide of potassium solution, as recommended in the former paragraph, as soon as the spot disease is first apparent, repeating the spraying at intervals of every few days. It is a good plan when this trouble has once been experienced to spray the Sweet Peas in their early history in the succeeding season, in this way anticipating the reappearance of the disease, and by these means exterminating it.

SWEET PEA BLIGHT (*Peronospora trifoliorum*).—This is a source of considerable trouble in many gardens, just as the plants give evidence of making vigorous growth. Its presence is noted by dull, yellowish blotches on the

foliage, these blotches becoming covered with bright grey mould when this fungoid disease reaches its fruiting stage. The enormous quantity of spores which are evident when the disease is in this mould-like stage, give a good indication of the great possibilities of perpetuating the trouble. As each spore matures and bursts, they quickly distribute the disease, for which reason they need dealing with in every drastic fashion at once. To prevent the disease spreading, the plants and foliage should be sprayed with liver of sulphur (sulphide of potassium), using the soap and sulphur solution as advised for Mildew and Sweet Pea Spot. Unless means be taken to effect a remedy or check the spread of the disease in its earliest stages, it is possible that the whole collection of plants may soon become involved, and the prospects of a bright display in the near future be absolutely spoiled.

SLUGS

In the earliest stages outdoors, slugs not seldom give growers cause for anxiety. This is more noticeable in the case of gardens of circumscribed areas such as suburban gardens, where trees and shrubs and other strong growing subjects afford cool and shady quarters in which the slugs secrete themselves during the day time. Close wooden fences dividing one small garden from another often harbour this pest, to the detriment of toothsome young plants in the garden. As a preventative measure we should work into the soil lime or soot rather freely, and as soon as the seedlings are through the soil and until well established, should dust the surroundings with either of these remedies from time to time as required, or until they have lost their potency. Another simple means of preventing damage by slugs is to dust powdered alum over plants that are the recipients of their close

attention. This is a most effectual remedy and deserves to be widely known. In wet weather the dustings must be repeated as the rains wash away the powder. It is a good plan to dust round about plants that are subject to their depredations, and any slug that may come into contact with the powdered alum will most assuredly never visit the spot again.

GREEN FLY.—This is, in some seasons, when the weather assists its propagation, a source of some anxiety to growers. It is one of the commonest members of the aphide family, and increases at an astonishing rate. Constant syringing of the plants acts as a deterrent, however, and a spraying with some insecticide, such as a weak decoction of quassia chips and water with the addition of a small quantity of soft soap, or with a solution of soft soap, made up of two-ounces of the latter to each gallon of water, the affected plants being syringed with vigour, should quickly eradicate the trouble. If done in the late afternoon or the cool of the evening, and followed by a good syringing with clear water on the succeeding morning, this pest is usually got rid of.

THRIPS.—Just as the plants are giving evidence of coming into flower, the plants, not seldom, are troubled with this pest, especially in hot, dry seasons. Thrips attack the flowers, and unless very speedily eradicated they will spoil not only the flowers, but the plants too. Moist conditions in this case, too, act as a great deterrent, and if the syringe be brought into frequent use, and the plants be given a free spraying for a time with clear soot water, the pest may be dislodged. We have great faith, however, in the use of soft-soap solution, referred to as an insecticide in the case of green fly, and do not hesitate to apply this in the first instance rather than wait to see the effect of the cold douches to which we previously referred.

OTHER SOURCES OF TROUBLE.—We have already dealt

with birds, but mice are a frequent source of anxiety, especially after the seeds are sown. It has been necessary in many cases to lay down traps to catch them, but the simple remedy of red-leading the seeds will not only render them distasteful to the mice, but will effectually protect both seeds and plants from trouble in this respect.

PEA WEEVIL.—In some gardens the pea weevil gives the grower some concern. The two best known weevils that attack these plants may usually be detected on the growths: one is spotted and the other is striped; the colour being represented by dirty shades of yellow. The larval and beetle stages of these pests are distinctly harmful; in the former condition they feed on the roots, and in the latter condition gnaw and destroy the leaves and stems. A vigorous shaking of the plants and stamping on the ground immediately below should have the effect of destroying many; subsequently, give the surface soil a light dressing of slaked lime. A simple means of making the surroundings distasteful is to dust the plants with soot, or to spraying them with weak solution of paraffin.

THE SMALL CABBAGE BUTTERFLY (*Pieris rapæ*), in some seasons, and under certain peculiar conditions, appears to have a weakness for these plants. Doubtless, many growers have seen an immense number feeding on the under-sides of the leaves, and in such cases it is better to pick the affected leaves and destroy them. A spraying of the foliage with soft soap solution by the aid of an Abol syringe with an inverted nozzle, will enable the grower to diffuse the insecticide on the under-sides of the leaves, and in this way we may easily destroy this voracious pest.

Clear Bordeaux mixture is often used to eradicate fungoid diseases, and it must be admitted that, where this is sprayed on the affected plants in good time, success not seldom attends these efforts.

What is known as the "Streak" disease threatens to

become an exceedingly serious matter to all lovers of the Sweet Pea. No one appears to know what to do with plants affected by this dreaded scourge. Until information of a reliable kind is forthcoming, and this from an undoubted authority, it were better to pull up affected plants and burn them forthwith. In this way the disease may be stamped out. It would be sheer folly to allow such plants to remain in any collection after the disease has been determined by the grower.

Mr George Masee, of the Royal Botanic Gardens, Kew, says the disease is of a physiological nature. One feature common to all plants suffering from "Streak" is the rarity, or often the total absence, of nodules on the roots. He says, in the "Sweet Pea Annual" for 1909, "This is due to the nitrogen-fixing bacteria being rendered inert, or doing work of a nature detrimental to the pea plant, by the excess of nitrogenous manure used." An excess of manure has usually a deleterious effect on the soil, and on the organisms present, the result being "Streak" in the plants. We may, therefore, overdo the manuring of Sweet Pea quarters.

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